

NUCLEAR
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Contents

<i>Legislative and Regulatory Activities</i>	6
<hr/>	
<i>Case Law and Administrative Decisions</i>	21
<hr/>	
<i>International Organisations and Agreements</i>	23
<hr/>	
<i>Texts</i>	37
<hr/>	
<i>Studies and Articles</i>	50
<hr/>	
<i>Bibliography</i>	78
<hr/>	

Nuclear Energy Agency

Organisation for Economic Co-operation and Development

FOREWORD

The readership of the Nuclear Law Bulletin has expanded progressively with each issue, and it is now distributed all over the world. The volume of the information treated has also increased in parallel and, so as to facilitate research and consultation of the analyses and texts published in the Bulletin since its inception, a new Index has been prepared which covers the first twenty issues.

Publication of Nuclear Law Bulletin N° 20 coincides with its tenth anniversary. The NEA Secretariat therefore wishes to take this opportunity to thank all those whose kind assistance has enabled us to publish the Bulletin.

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LEGISLATIVE AND REGULATORY ACTIVITIES

• *Canada*

ENVIRONMENTAL PROTECTION

The Ocean Dumping Control Act of 19th June 1975

This Act which was published in the Canada Gazette of 19th June 1975, lays down certain measures in application of the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) to which Canada is a Party. The Act sets out the conditions to be complied with in respect of the dumping permits issued by the Minister of the Environment, while Schedule I contains a list of prohibited substances, Schedule II contains a list of restricted substances, i.e. those subject to dumping permits, and Schedule III defines the factors to be taken into account where such permits are granted.

It is recalled that the London Convention lists high-level radioactive waste among the materials prohibited from dumping and lays down that the dumping of medium and low-level radioactive waste is subject to the issue of a dumping permit. Such dumping must also be effected in compliance with the Definition and Recommendations on the subject by the International Atomic Energy Agency.

• *France*

ORGANISATION AND STRUCTURE

Decree of 1st September 1976 setting up a Council for External Nuclear Policy

Decree N° 76-845 of 1st September 1976, published in the Official Gazette of 2nd September 1976, has set up a Council for Exterior Nuclear Policy. This Council, which is chaired by the President of the Republic, includes the Prime Minister, the Ministers for Economy and Finance (these duties are presently discharged by the Prime Minister), Defence, Industry

Trade and Crafts, External Trade, and the Administrator-General of the Commissariat à l'Energie Atomique, as well as the Minister of Foreign Affairs.

The duty of this Council is to define the various aspects of external nuclear policy, in particular, regarding the export of technology, equipment and sensitive nuclear products.

In this respect, a Notice to exporters, from the Ministry of External Trade and relating to products which may not be exported, was published in the Official Gazette of 8th December 1976. This Notice contains a list of nuclear materials and non-nuclear materials and equipment which are sensitive from the nuclear non-proliferation viewpoint and whose export is subject to control. Another Notice was published on 16th June 1977

Central Service for the Safety of Nuclear Installations

Decree N° 73-278 of 13th March 1973 setting up a High Council for Nuclear Safety and a Central Service for the Safety of Nuclear Installations (see NLB N° 11) has been amended by Decree N° 77-623 of 6th June 1977. Under this Decree, the Central Service for the Safety of Nuclear Installations is placed from now onwards within the Directorate of Mines which comes under the Ministry of Industry, Trade and Crafts. The Head of the Central Service for the Safety of Nuclear Installations and his deputy are appointed by Order of the Minister of Industry, Trade and Crafts, on the proposal of the Director of Mines.

RADIATION PROTECTION

Orders Implementing the 1975 Decree on the Protection of Workers against the Hazards of Ionizing Radiations in Large Nuclear Installations

The Minister of Labour has made two Orders in implementation of Sections 18 and 23 respectively of Decree N° 75-306 of 28th April 1975 on the Protection of Workers Against the Hazards of Ionizing Radiations in Large Nuclear Installations (see NLB N° 16) (Official Gazette of 14th August 1977).

The first Order dated 7th July 1977 lays down that areas subject to special regulations or which are prohibited within each controlled area, in accordance with the above-mentioned Decree, are those where the equivalent dose rate for external radiation is likely to exceed 2.5 millirems per hour. The Order also lays down the way these areas should be marked.

The Order dated 8th July 1977 approves the methods for controlling radiation sources and the atmosphere in large nuclear installations which are elaborated by the Central Service for Protection Against Ionizing Radiations.

Order of 1977 on work requiring special medical regulations

On 11th July 1977 the Minister of Labour made a Decree (Official Gazette of 24th July 1977) prescribing special medical surveillance by physicians in charge of the medical surveillance of staff as regards workers assigned to activities involving the use or exposure to X-rays and the preparation of certain products including in particular, radioactive substances. This Order replaces the Orders of 22nd June 1970 and 20th November 1974 which are cancelled.

REGIME OF NUCLEAR INSTALLATIONS

Regulations on pressurized components for light water reactor steam supply systems

Regulations for the construction and operation of the main primary circuit for steam supply systems are embodied in an Order of 26th February 1974 (see NLB N°s 13 and 15). This text has been amended by a Circular of 5th August 1977 by the Ministry of Industry, Trade and Crafts.

ENVIRONMENTAL PROTECTION

Decree of 1977 on information to be supplied in relation to harmful wastes

Decree N° 77-974 of 19th August 1977 (Official Gazette of 28th August 1977) makes the services in charge of controlling classified installations responsible for policing undertakings whose work involves certain types of harmful wastes. Under this Decree the undertakings concerned may be required to keep records, to send periodic statements or, in the case of waste transport, to establish a loading statement specifying the planned methods of disposal. Wastes containing radioactive substances are included in the categories of waste covered by this Decree.

Decree of 1977 made in implementation of the Act of 1976 on the protection of nature

Act N° 76-629 of 10th July 1976 provided in particular that studies prior to the creation of large projects had to include an impact study enabling an assessment of their consequences on the environment (NLB N°s 17 and 18). The French Government has just made Decree N° 77-1141 of 12th October 1977 (published in the Official Gazette of 13th October 1977) in implementation of Section 2 of the Act of 10th July 1976 (impact studies).

This Decree lays down that works and planning projects which are undertaken by the national and local public services (municipalities etc.) or which are subject to licensing or approval by the public authorities must be preceded by an environmental impact study. This impact study must be undertaken by the petitioner or the person in charge of the works except when a special procedure entrusts this impact study to a public body. Maintenance and repair work as well as planning and works defined in Annexes I and II to this Decree are exempted from such obligation, as are works whose total costs are below 6 million francs, subject to the provisions of Annex III.

The content of the impact study must be in relation to the importance of the planned works and arrangements and with their foreseeable incidence on the environment. It must include in particular:

- (1) an assessment of the initial condition of the site and its environment covering in particular its natural resources and natural agricultural land, forests, marine or leisure spots affected by the planning or works;

- (11) an assessment of the environmental effects, in particular on the sites and landscapes, fauna and flora, the natural environments and the biological balance, and where necessary, on the nuisances for the neighbourhood (noise, vibrations, smells, luminous emissions) or the effects on hygiene and public health;
- (111) the reasons why, particularly from the environmental viewpoint, the project submitted has been selected from among the others considered;
- (1V) the measures planned by the person in charge of the works or by the petitioner to do away with, reduce and, if possible, offset the damaging consequences of the project on the environment, as well as an estimate of the corresponding expenditure.

When the planning or the works in question are subject to a public enquiry procedure, the impact study is included in the file submitted to public enquiry. When no such public enquiry is planned, any individual or legal entity may nevertheless examine the impact study as soon as the appropriate administrative authority has taken the decision to consider, to license or to approve (e.g. construction permit) the planning or the works. Failing such procedure, the date on which the impact study may be communicated is the date when the decision approving the works has been taken by the national or local services public in charge of the works (or even before, if the public authorities consider it opportune in a particular case).

In order to facilitate communication of the impact study to the public, the above-mentioned decisions on consideration, licensing, approval or implementation must be published in the press mentioning the existence of an impact study on the works concerned before they are begun. Requests for consultation must be sent to the Préfet of the Département concerned.

The Minister of the Environment may on his own initiative or at the request of any individual or legal entity take possession of the impact studies and then give his opinion to the Minister concerned.

This Decree, which will come into force on 1st January 1978, is accompanied by a Circular made on the same date by the Prime Minister concerning temporary measures and the publicity of the impact study. It expresses the wish of the Government to see that this Decree is implemented as rapidly and as widely as possible (without giving it retroactive effect). The Préfets in charge of organising the publicity of the impact study are asked to organise the information meetings required when such studies are included in a public enquiry procedure.

The provisions of this Decree will clearly apply to projects for the creation of nuclear installations covered by the Decree of 11th December 1963 on large nuclear installations. Annex III of the present Decree stipulates that work requiring a licence under regulations on large nuclear installations may in no case be exempted from the impact study. Furthermore, a Circular of 24th August 1976 made by the Minister for Industry and Research already prescribed that the application for the recognition that nuclear installations are in the public interest had to include an environmental impact study (see NLB N° 18).

• Ireland

REGIME OF RADIOACTIVE MATERIALS

Nuclear Energy (General control of fissile fuels, radioactive substances and irradiating apparatus) Order, 1977

The Nuclear Energy Act 1971 which established the Nuclear Energy Board also empowers the Minister of Transport and Power to assign to the Board by Order responsibilities regarding the use of fissile fuels, radioactive substances and irradiating apparatus. (For the text of the Act see NLB N°s 8 and 13).

By Order dated 1st June 1977 which came into force on 1st July 1977 (S.I. N° 166 of 1977), the Minister has made the Board competent in respect of licences for all operations covering fissile fuels, radioactive substances and irradiating apparatus.

In accordance with this Order the custody, use, manufacture, importation, distribution, transportation, exportation or other disposal of fissile fuels, radioactive substances and irradiating apparatus are prohibited, save under a licence issued by the Nuclear Energy Board.

The following are excluded from the scope of the Order.

- (a) radioactive substances or irradiating apparatus for medical purposes;
- (b) raw and treated ores which contain less than 0.05% by weight of uranium or thorium;
- (c) any product (except toys, foodstuffs, household products, cosmetics etc.) whose level of radioactivity does not exceed certain limits in accordance with the various groups of radionuclides (set out in the Schedule to the Order);
- (d) navigation instruments or time-pieces;
- (e) apparatus which emit ionizing radiations in amounts greater than the values specified in paragraph (c) but which are licensed by the Board and comply with certain conditions laid down by this Order;
- (f) apparatus (other than television receivers) which emit ionizing radiations but do not contain radioactive substances and comply with certain conditions laid down by this Order;
- (g) television receivers.

The prohibition on transportation laid down by this Order does not apply to transportation by a carrier in the normal course of his business, provided that the consignor furnishes him with a copy of the licence authorising the transportation of materials to which this Order applies.

All applications for a licence must be made to the Board. Any person who is already carrying out work involving one of the specified activities must apply for a licence within one month of the entry into force of this Order. In any other case, the application must be filed no later than one month before the activity requiring the licence has begun.

The application must contain all the particulars required by the Board to enable it to make a comprehensive appraisal of the file. The Board may ask for additional information before issuing the licence. Such information may concern the applicant himself, his ability, his experience in the safe usage and handling of fuels, radioactive substances and irradiating apparatus.

The Board may, at its discretion, refuse or revoke a licence in order to ensure the protection of persons and property from the standpoint of health and safety.

The date of expiry of the licence is contained in the licence proper. It may be renewed provided that the applicant so requests one month before it expires.

The licence may furthermore be amended. In such case the applicant must submit a request under the same conditions as those for a licence and specify the reasons for the proposed amendment.

Finally, the Order provides that officers or servants of the Board are empowered to ascertain that the provisions of the licence are complied with either by visiting the premises or by examining the files belonging to the holder of the licence or by any other action they consider opportune.

An officer of the Customs and Excise may seize any material which under this Order is subject to an importation or exportation licence when such an operation is attempted in contravention of this Order. He may also open any package suspected by him to contain such materials and apply the provisions of the Customs Consolidation Act 1876 as if the articles seized had been seized under that Act.

• Italy

RADIATION PROTECTION

Ministerial Decree of 4th August 1977 on the levels of contamination of air, water and soil, of food and drinking water

This Decree by the Minister of Health was published in the Official Gazette of 25th August 1977 and was made under Section 108 of DPR N° 185 of 13th February 1964. It lays down the range of maximum permissible levels of concentration of radioactivity in air, water and soil according to the levels established by Decree of the Minister of Health of 2nd February 1971 (see NLB N° 7), and specifies that the permissible levels for foods and beverages are the same as those established for water.

REGIME OF NUCLEAR INSTALLATIONS

Ministerial Decree of 4th January 1977 subjecting certain nuclear installations to Section 55 of Decree N° 185 of the President of the Republic

This Decree was issued in the Official Gazette of 13th May 1977. Its publication was provided under Section 55 of DPR N° 185 of 13th February 1964 and it determines the technical characteristics, as well as the quantity and concentration of radioactivity applicable to facilities for industrial purposes and scientific research which contain large radiation sources or high-powered radiation-emitting devices, such as particle accelerators, excluded from the scope of the other provisions of DPR N° 185, but which are nevertheless submitted to the licensing procedure in Section 55.

Act of 24th December 1976 on military easements

Act N° 898 which was published in the Official Gazette of 11th January 1977 lays down a series of regulations governing the construction of roads, buildings, canals and equipment of any type in the vicinity of military establishments, naval bases, airports, and subjecting such works to certain limitations and prohibitions under the Act.

Any application for such construction is examined by a joint regional consultative committee, including representatives of the military authorities, which makes alternative proposals where necessary, having regard to harmonisation of the plans for regional organisation and the military installations programme and the consequential limitations.

The Act has a direct bearing on the licensing of nuclear power plants whose construction requires the opinion of the territorial military command. If no reply to the application is received within 90 days of its submission, it is considered that such opinion is favourable.

REGIME OF RADIOACTIVE MATERIALS

Ministerial Circular of 4th August 1977 containing recommendations concerning the use of radioactive lightning conductors

By this Circular, the Minister of Health informed the other Ministers concerned (Interior, Labour and Social Security, Industry, Commerce and Crafts), regional authorities, the Health Institute and the Comitato Nazionale per l'Energia Nucleare (CNEN) of the findings and recommendations of the Superior Council for Health following its study on the use of radioactive lightning conductors.

Based on these recommendations, the Circular requests the regional Prefects, who are empowered to issue clearance certificates (nulla osta) for the use of radiation sources for scientific and industrial purposes under DPR N° 185 of 13th February 1964, to ascertain that very stringent criteria are adopted for new radioactive lightning conductors, and, as the case may be, to revise the licences already granted in relation to the numbers and intensity of the existing devices. The Circular further states that the Ministry of Health is preparing legislative provisions which will govern this matter in accordance with the above-mentioned recommendations.

• *Peru*

ORGANISATION AND STRUCTURE

Peruvian Institute for Nuclear Energy

The Peruvian Institute for Nuclear Energy (Instituto Peruano de Energia Nuclear - IPEN) results from Decree-Law N° 21094 of 4th February 1975 regulating the bodies within the energy and mines sector, and Decree-Law N° 21875 of 5th July 1977 regulates the Institute proper and defines its objects and Statute.

The Institute has been set up as a decentralised body with a legal personality in public law and technical, economic and administrative autonomy. Its headquarters are situated in Lima.

The duties assigned to the Institute may be summarised as follows:

- development of the scientific and technological infrastructure in Peru which is required for the use of nuclear energy, and provision of assistance in this field to the energy and mines sector;
- promotion co-ordination and control, in the interests of the country, of all research and development work on the use of nuclear energy;

- establishment of standards and regulations on nuclear safety and radiation protection and of a system for licensing the use of radioactive material and radiation emitting equipment,
- monopoly of the prospection for and exploitation and subsequent use of nuclear ores and of other activities in the nuclear fuel cycle;
- control of the import, export and distribution of radioactive substances;
- representation of Peru at international level.

As regards its organisation, the Institute includes a Chairman, an Executive Directorate and a Scientific and Technological Advisory Board. The staff is assigned to a number of specialised divisions. The Chairman is the official representative of the Institute and manages it with the assistance of the Executive Directorate; he consults the Advisory Board to this effect. The Institute also has regional offices.

The Institute succeeds the old "Junta de Control de Energia Atomica" and also takes over the latter's rights and obligations as well as its assets and staff.

A draft implementing regulation for Decree-Law N° 21875 setting out in detail the duties and structure of the Institute is presently being prepared.

• Portugal

ORGANISATION AND STRUCTURE

Creation of a National Uranium Undertaking

A National Uranium Undertaking (ENU) was set up by Decree N° 57 of 6 May 1977 and published in the Official Gazette on that same date. This Decree grants the new Undertaking certain privileges regarding expropriations for reasons of public interest and for protection of its installations. The ENU Statute which is attached to this Decree, lays down that its main purpose is the prospection and inventory of uranium deposits, exploration of known deposits and the setting up of facilities for the recovery and treatment of uranium ores and finally, the marketing of the products obtained. The ENU has exclusive rights on those activities and has taken over the work carried out until now in that field by the Junta de Energia Nuclear.

The main bodies of the ENU are the Management Board which, under the authority of its Chairman, is responsible for the management of the Undertaking, and a Supervisory Commission. The ENU is placed under the authority of the Minister for Industry and Technology who, in particular, approves its operating plans.

• *South Africa*

NUCLEAR LEGISLATION

Atomic Energy Amendment Act, 1977

Act N° 76 of 7th June 1977 amending the Atomic Energy Act 1967 (see NLB N° 15) was published in the Government Gazette of 15th June 1977. The Atomic Energy Act 1967 has therefore been amended concerning certain definitions, namely that of special nuclear material which covers U 233, uranium enriched in the isotope 235 as well as transuranium elements and any of their compounds derived from source material above concentration limits specified by the State President by proclamation in the Gazette.

The amendments to the 1967 Act also deal with the obligation to report to the Atomic Energy Board of the occurrence of source material, the abolition of Alternates to certain members of the Board, the payment into the Atomic Energy Research Account of moneys obtained from certain discoveries, improvements, patents etc; and finally, extension of the powers of the Board concerning conclusion of agreements.

• *Sweden*

ENVIRONMENTAL PROTECTION

Act of 22nd January 1976 on measures against water pollution from vessels in the Baltic Sea area

Act N° 6 on measures against water pollution from vessels in the Baltic Sea area was published in the Official Gazette of 4th February 1976 and came into force on 1st January 1977 in accordance with Ordinance N° 570 of 17th June 1976.

This Act, which was made in implementation of the 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area, the so-called Helsinki Convention (see NLB N° 13), prohibits and regulates, as the case may be, the dumping or release of harmful or noxious substances in the Baltic Sea and in Swedish territorial waters. The Act specifies further that the Government shall issue special regulations concerning emergency discharges and discharges other than those mentioned in that Act.

It is recalled that, under the Helsinki Convention, radioactive materials are listed under noxious substances

• *Switzerland*

REGIME OF NUCLEAR INSTALLATIONS

Draft Federal Order on the Atomic Energy Act and public initiatives

The preceding issue of the Nuclear Law Bulletin indicated that the Swiss authorities had decided to undertake an overall revision of the Act of 23rd December 1959 on the Peaceful Uses of Atomic Energy and Protection against Radiation. However, in view of the importance and expected duration of the exercise, it was planned to publish an interim Order to supplement the present Act.

This draft Order was submitted by the Federal Council in a Message dated 24th August 1977 to the Federal Assembly of the Swiss Confederation. It should be recalled that the draft Order is characterised by the following: the creation of a general licence, the granting of which should be subject to demonstration that the power produced by the installation meets the national need; publication of the application enabling the public to lodge objections; investigation of the application and the objections by the specialised authorities; communication of these authorities' opinions to the public; new investigation by these same authorities; and finally, decision of the Federal Council. Furthermore, producers of radioactive waste will be responsible for its disposal in safe conditions, without intervention by the Confederation, except where it considers this necessary; the cost of such waste disposal will be borne by the producers. This Order may be submitted to a referendum and it will remain valid only until the entry into force of the new Atomic Energy Act and no later than 31st December 1983. The text of the draft Order is reproduced in the "Texts" Chapter of this issue of the Nuclear Law Bulletin.

In parallel with this draft Order of the Federal Council, a public initiative "for the preservation of the rights and safety of the public when atomic installations are constructed and operated" was deposited on 20th May 1976 with the Federal Chancellery, which noted its validity. In essence, the contents of this initiative tend to supplement Section 24 quinquies of the Federal Constitution so as to introduce a system of concessions for atomic installations, granted by the Federal Assembly, and subject to approval by the electors in the Commune and cantons within a certain radius of the installation site. This initiative also proposes the creation of an unlimited causal liability system for any damage resulting from a nuclear installation, which can only become statute-barred ninety years after the occurrence of the event having caused the damage.

The Federal Council opposed this initiative which will soon be put to a referendum in a Message to the Federal Assembly, also dated 24th August 1977.

THIRD PARTY LIABILITY

Order of 1977 on Cover for Nuclear Third Party Liability

An Order of 6th July 1977 was made by the Swiss Federal Council on cover for third party liability for nuclear power plant operation. The liability of operators of atomic installations in Switzerland had until now been limited to 40 million Swiss francs under the Act of 23rd December 1959 on the Peaceful Uses of Atomic Energy and Protection against Radiation. In accordance with Section 21 of that Act, the insurance coverage for third party liability for an electricity-generating nuclear power plant has now been fixed at 200 million Swiss francs. This Order came into force on 1st October 1977.

• *United Kingdom*

THIRD PARTY LIABILITY

The Nuclear Installations (Isle of Man) Order 1977

This Order (S.I. N° 429) which was made on 9th March 1977 and came into operation on the same date, extends to the Isle of Man, with the exceptions, adaptations and modifications specified in the Schedule, certain provisions of the Nuclear Installations Act 1965, as amended in 1969, 1971 and by any subsequent enactments. These provisions relate to duties in respect of carriage of nuclear matter, to right to compensation in case of breach of such duties, and to the bringing and satisfaction of claims. Under the Nuclear Installations Act, the duty of the nuclear operator is to secure that no nuclear occurrence taking place within the realm of the Act causes injury to persons or damage to property.

The Carriage of Goods by Sea Act 1971 (Commencement) Order 1977

This Order (S.I. N° 981) brought into force on 23rd July 1977 the Carriage of Goods by Sea Act 1971 giving effect at internal level to the 1968 Protocol to the International Convention on Certain Rules of Law relating to Bills of Lading 1924 (the Hague Rules).

The 1971 Act introduces an amendment to the Nuclear Installations Act 1965 which lays down, as does the Paris Convention, that none of its provisions shall affect the operation of international transport agreements in force in the United Kingdom, and in particular, the Hague Rules. As of now, and in accordance with the 1968 Protocol, the Nuclear Installations Act 1965 no longer reserves application of the Hague Rules.

NUCLEAR-POWERED SHIPS

Merchant Shipping (Safety Convention) Act 1977

This Act of 23rd July 1977, when it comes into force, will enable the United Kingdom to ratify and to give effect to the 1974 International Convention for the Safety of Life at Sea (the SOLAS Convention) which replaces the SOLAS Convention of 1960. Under the Act, the Secretary of State may make such rules as he considers appropriate regarding ships provided with nuclear power plants in accordance with Chapter VIII of the Annex to the 1974 Convention and to Recommendations attached to it, dealing with nuclear ships, and insofar as those provisions have not been implemented by the Merchant Shipping Acts 1894 to 1974.

It should be noted that when the SOLAS Convention was drawn up in 1960, the problems arising from the advent of nuclear-powered merchant ships were carefully considered and the importance of reaching an international agreement on the subject was acknowledged. In view of the technical developments which were likely to take place in that field in the near future, only a small number of Regulations dealing with matters of principle and procedure concerning nuclear ships were therefore included in the Convention. These Regulations were supplemented by Recommendations to provide guidance for their application and to draw attention to the main problems requiring attention.

• *United States*

ORGANISATION AND STRUCTURE

Termination of the Joint Congressional Committee on Atomic Energy

Nuclear Law Bulletin N° 19 already indicated that the US Congress took steps to abolish the Committee, but that its formal termination would require amendment to the Atomic Energy Act of 1954. This amendment has now been passed; Public Law 95-110 of 20th September 1977 adds a new Chapter 20 (Sections 301-303) to the Atomic Energy Act. The Joint Committee on Atomic Energy is abolished and Chapter 17 (Sections 201-207) of the Atomic Energy Act dealing with this Committee is repealed. The Secretary of Energy and the Nuclear Regulatory Commission shall keep the competent Committees of the Senate and the House of Representatives fully and currently informed with respect to their activities. The same applies, mutatis mutandis, to the Department of Defense and Department of State as regards national security considerations of nuclear technology which are within the jurisdiction of Senate and House Committees

Establishment of the Department of Energy

The new Department of Energy was established by Public Law 95-91, the "Department of Energy Organisation Act", which was approved on 4th August 1977. The purpose of the Act is to assure co-ordinated and effective administration of federal energy policy and programmes. The new

Department absorbs completely all the functions of the Federal Energy Administration, the Energy Research and Development Administration (ERDA), the Federal Power Commission, and takes over certain energy related programmes of other Departments.

The Department of Energy is headed by a Secretary for Energy, assisted by a Deputy Secretary, an Under-Secretary for Conservation and eight Assistant Secretaries. The functions to be assigned to the Assistant Secretaries include enriched uranium production, R and D on the fuel cycle for nuclear energy resources, national security functions relating to management and implementation of the nuclear weapons programme, as well as nuclear waste management responsibilities. However, these functions shall not affect the regulatory powers conferred upon the Nuclear Regulatory Commission (NRC).

The Department of Energy Organisation Act establishes further within the Department a Federal Energy Regulatory Commission, an Energy Information Administration, an Economic Regulatory Administration, an Office of Inspector-General and an Office of Energy Research.

The Act amends a number of existing Acts. In particular, the Energy Re-organisation Act of 1974 (see Nuclear Law Bulletin Nos 13 and 14) is amended by repealing Section 108 which established an Energy Resources Council in the Executive Office of the President. The Atomic Energy Act of 1954 is amended by repealing Section 26 which established a General Advisory Committee to the former Atomic Energy Commission.

The Act requests the President to propose to Congress biennially a national energy policy plan; the first of these plans is to be submitted by 1st April 1979.

Not later than 15th January 1982, the US President shall submit to the Congress a comprehensive review of each programme of the Department.

RADIATION PROTECTION

Environmental radiation protection standards for nuclear power operations

A new Sub-Chapter F consisting of Part 190 was added to title 40, Chapter I of the Code of Federal Regulations (Federal Register, Volume 42, page 2857 of 13th January 1977). Part 190 applies to radiation doses received by members of the public in the general environment as a result of operations associated with the production of electricity by nuclear energy. These operations shall be conducted in such a manner as to provide reasonable assurance that the annual dose equivalent does not exceed 25 millirems to the whole body, 75 millirems to the thyroid and 25 millirems to any other human organ as the result of exposures to planned discharges of radioactive materials to the general environment from uranium fuel cycle operations, except radon and its daughter products. The total quantity of radioactive materials entering the general environment from the entire uranium fuel cycle per gigawatt-year of electrical energy produced by the fuel cycle, shall contain less than 50,000 curies of krypton 85, 5 millicuries of iodine 129, and 0.5 millicuries combined of plutonium 239 and other alpha-emitting transuranic radionuclides with half-lives greater than one year.

The uranium fuel cycle comprises uranium milling, chemical conversion of uranium and its isotopic enrichment, fabrication of uranium fuel, generation of electricity by a light water reactor using uranium fuel, to the extent that these operations directly support the production of electrical power from nuclear energy for public use. The term does not include mining and waste disposal operations, transportation of any radioactive material and support of these operations and the re-use of nuclear materials recovered from the cycle which do not consist of uranium. Certain exceptions may be made for unusual operations.

The standards relating to nuclear power operations will become effective on 1st December 1979, except those relating to the milling of uranium ore which will enter into force on 1st December 1980. The standards relating to the entire uranium fuel cycle will become effective on 1st December 1979 with the exception of krypton 85 and iodine 129, the effective date of which is 1st January 1983.

ENVIRONMENTAL PROTECTION

Amendments to the Clean Air Act

Public Law 95-95 of 7th August 1977, the "Clean Air Act Amendments of 1977" gives, inter alia, certain powers to the Administrator of the Environmental Protection Agency (EPA) with respect to radioactive pollutants. This law authorises the Administrator to classify radioactive pollutants as air pollutants under the Act. As regards sources or facilities under the jurisdiction of the Nuclear Regulatory Commission (NRC), EPA and NRC are to conclude an interagency agreement which shall minimise duplication of effort in the establishment, implementation and enforcement of emission limitations, standards and other requirements under the Clean Air Act. If the NRC determines that the application of a standard or emission limitation promulgated by EPA to a source or facility within NRC's jurisdiction would endanger public health or safety, such standard or limitation shall not apply unless the President determines otherwise.

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

• *Federal Republic of Germany*

CONSTITUTIONALITY OF SECTION 7 OF THE ATOMIC ENERGY ACT IN RELATION TO FAST BREEDER REACTORS

Pursuant to Section 7(1) of the Atomic Energy Act, any person who constructs or operates an installation for the production or fission of nuclear fuel requires a licence. The licensing requirements are set forth in Section 7(2) and provide in particular in N° 3 of that sub-section that a licence may be granted only if "every necessary precaution has been taken in the light of existing scientific knowledge and technology to prevent damage resulting from construction and operation of the installation".

Article 100 of the Basic Law of the Federal Republic of Germany provides that if a court considers a law to be unconstitutional the validity of which is a prerequisite for the court's decision, it shall suspend the procedure and submit the case to the Federal Constitutional Court.

On 18th August 1977, the Administrative Court of Appeals for the Land North Rhine-Westphalia at Munster issued the following Order. "The procedure is suspended. A decision by the Federal Constitutional Court shall be obtained as to whether Section 7 of the Atomic Energy Act is compatible with the Basic Law, to the extent that this Section permits the licensing of a nuclear power plant of the fast breeder type".

The facts of the case are the following. On 18th December 1972, the licensing authorities granted a first partial construction permit for the SNR-300 fast breeder nuclear power station of Kalkar. This permit also affirmed the suitability of the site. The plaintiff, who owns a farm at a distance of about 1 km from the site, had complained against the permit with the argument that he would suffer personal injury and encounter difficulties in selling his products if the project were realised. His complaint was rejected by the Administrative Court by judgment of 30th October 1973. The plaintiff has appealed this decision; he contends

that the partial construction permit should not have been granted as the licensing requirements, in particular those of Section 7(2) N° 3, had not been met. Furthermore, the Atomic Energy Act was unconstitutional for a number of reasons.

The Administrative Court of Appeals considered the requirements of Article 100 of the Basic Law to be fulfilled. The Court first recognised the principle that the constitutionality of a provision (i.e. Section 7 of the Atomic Energy Act) is decisive within the meaning of that Article 100 only if the Court had either to dismiss the complaint (and reject the appeal) in case of constitutionality or to grant it in case of unconstitutionality. At the present stage of the proceedings, the question of whether the constitutionality of Section 7 of the Atomic Energy Act was decisive would require the Court to take evidence on the fulfillment of the licensing requirements. If it were to be concluded from this evidence that these requirements had not been met, the complaint would be successful and there would be no need to submit the question of constitutionality to the Federal Constitutional Court. The Court, however, reasoned that taking evidence would be extremely cumbersome, time-consuming and costly so that exceptionally the case could be directly submitted to the Constitutional Court.

The Administrative Court of Appeals is of the opinion that Section 7 of the Atomic Energy Act violates in particular the principle of distribution of powers and parliamentary democracy established by the Basic Law. It followed from these principles that the lead decisions had to be taken by Parliament which has to limit itself to "important" decisions in order to maintain flexibility. The Parliament of the Federal Republic of Germany had taken such a lead decision by adopting the Atomic Energy Act. However, such a decision had to be all the more concrete the greater its importance for the general public, the more it affects the civil rights of the citizen concerned, the further it reaches the political conflict and the higher the intensity of governmental action.

According to the Court, Section 7(2) of the Atomic Energy Act does not meet these requirements as being limited to the safety of a particular installation and its safe operation at a particular site, but not taking account of further consequences, dangers and constraints possibly connected with the fast breeder reactor line. These consequences had national dimensions so that only the legislator could assume responsibility therefor. The very purpose of the fast breeder reactor was to use and breed plutonium, a highly radiotoxic element with a half-life of more than 24,000 years. The re-use of plutonium required complicated and costly reprocessing thus creating a plutonium fuel cycle the consequences of which could not yet be estimated. It was conceivable that this fuel would become an important source of energy and an object of trade so that one would have to talk of a plutonium economy. The Court raises the question whether this technology should be imposed on the population of the Federal Republic of Germany, whether future energy supply should rely on this element and what are the consequences from the point of view of safety, physical protection and non-proliferation. All these questions were to be decided not by the executive but by the legislator who had to take the lead decisions regarding the fast breeder reactor type by laying down more concrete criteria for the licensing requirements under the Atomic Energy Act.

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *Nuclear Energy Agency*

ESTABLISHMENT OF A MULTILATERAL CONSULTATION AND SURVEILLANCE MECHANISM FOR SEA DUMPING OF RADIOACTIVE WASTE

The purpose of the Mechanism, adopted by the OECD Council on 22nd July 1977, is to set up a system of international co-operation in the radioactive waste dumping operations that are organised by OECD countries, which will extend and strengthen the role hitherto played by NEA in this field and place it on a more formal basis. The OECD Council Decision is reproduced in the "Texts" Chapter of this Bulletin.

It is recalled that, over the period 1967-1977, twenty-two dumping operations of low- and medium-level radioactive waste in the Atlantic Ocean were organised under NEA's aegis and control in which a total of eight European countries took part. The Agency has, on the one hand, provided technical and legal assistance in the organisation of such operations and, on the other hand, has exercised international surveillance on a purely voluntary basis, there being no specific regulations in this field.

The situation changed with the adoption of the (London) Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter on 29th December 1972 which entered into force on 30th August 1975. This Convention regulates the deliberate dumping into the sea of wastes of all kinds and includes special provisions for radioactive wastes for the application of which the IAEA has specific rule-making responsibility.*

* The London Convention is analysed in this respect in the Note on international conventions relating to radioactive marine pollution in NLB N° 13. As to the role of IAEA see NLB N°s 11, 12, 14 and 19. The present status of ratifications of the Convention is given in the "Agreements" Chapter of this Bulletin.

The Steering Committee for Nuclear Energy decided therefore to re-examine and re-define the role that NEA might play in this field with a view to maintaining international co-operation within the new legal framework set up under the London Convention.

The resulting Decision of the OECD Council is based, from the legal point of view, on Articles 5,6 and 7 of the Convention on the Organisation for Economic Co-operation and Development of 14th December 1960, which give the Council the power to make decisions which are binding on Member countries. However, Article 1(a) of the Decision states clearly that the multilateral consultation and surveillance mechanism is set up in order to further the objectives of the London Convention. The Decision waives none of the provisions of the Convention, in particular those applying to radioactive waste, nor does it derogate from the responsibilities and powers which the Convention assigns to Governments as regards the granting of permits and the application of measures for preventing marine pollution and controlling dumping operations. Furthermore, the Decision does not affect the responsibilities of IAEA [see the Preamble, Article 2(a) and (b)]. The spirit of the Decision is expressed in the sixth paragraph of the Preamble which notes, in summarizing a series of provisions of the London Convention, that the latter encourages international and regional co-operation between its Contracting Parties in the development of procedures for its effective application and the promotion of measures to protect the marine environment against radioactive pollution

In conformity with its spirit and objective, the mechanism instituted by the OECD Council Decision supplements the system formed by the London Convention and the IAEA provisional Definition and Recommendations. It adds further compulsory rules, for countries participating in the Decision, on the sea dumping of radioactive waste which consist mainly of the following:

- the establishment and regular updating by NEA with the co-operation of IAEA and in consultation with the OECD Environment Committee, of standards, guidelines and recommendations to be applied by the Participating Countries dumping waste at sea;
- a prior notification procedure regarding all the conditions proposed for dumping operations;
- a consultation system which may imply international advice on the more important aspects of such operations (in particular the choice of the dumping site, containers and ships), which must be taken account of by the countries concerned;
- international surveillance by an NEA Representative who has certain powers of verification and may make suggestions and representations as to the conduct of the operation; operations may be suspended in case of disagreement between the NEA Representative and the national escorting officer or officers as regards important conditions of the operation;
- reports to the Steering Committee for Nuclear Energy on the operations carried out and in particular on the extent to which the national authorities have followed the international advice, if any, and the suggestions by the NEA Representative.

REPORT ON OBJECTIVES, CONCEPTS AND STRATEGIES FOR THE MANAGEMENT OF
RADIOACTIVE WASTE ARISING FROM NUCLEAR POWER PROGRAMMES

In 1972, the Nuclear Energy Agency published a report by a group of specialists entitled "Radioactive Waste Management Practices in Western Europe". As a follow-up to this report, the Agency's Committee on Radiation Protection and Public Health invited an Expert Group under the Chairmanship of Dr. C. Polvani (Italy), to discuss the main radioactive waste management issues in the light of further developments. The Expert Group completed this task in the spring of 1977 and it was decided to publish its report as a source of reference for continuous scientific and public discussion of the subjects covered by it.

This Report (also referred to as the "Polvani Report"), which is under the sole responsibility of the Expert Group, provides a comprehensive description of problems, current practices and policies in the field of radioactive waste management as well as recommendations to national authorities in particular for the long-term management of wastes. In addition to the purely technological aspects of treatment, storage, transport and disposal of waste, consideration has been given to siting, licensing, administrative and financial problems. The report is intended primarily to assist public health authorities, licensing bodies and in general those responsible for policy decisions in the field of nuclear energy.

After a short introduction (Chapter I), Chapter II deals with the general objectives of radioactive waste management, particularly from the point of view of radiation and environmental protection. The different categories of wastes from the nuclear fuel cycle and the basic waste management practices are described in Chapter III. The following and most elaborate Chapter discusses waste management policies and strategies; three sub-chapters deal respectively with nuclear fuel cycle alternatives (the "throw-away" option for irradiated fuel instead of its reprocessing), their consequences for waste management, and waste disposal options for short-lived wastes (e.g. sea-dumping) and long-lived wastes (e.g. deep geological formations on land). Chapter V is devoted to the administrative, legal and financial framework for the long-term management of radioactive waste, while Chapter VI contains the conclusions and recommendations of the Group of Experts. Eleven annexes, completed by a glossary, give detailed information on various types of waste, its storage and transportation, the behaviour of actinides, site selection factors for geological disposal formations, and a possible approach to financing the disposal of long-lived wastes.

Chapter V points out that while the safe management of radioactive waste is strongly related to the development and demonstration of appropriate technical methods, it has also important administrative, legal and financial aspects. The day to day management of radioactive waste is, according to the Report, in general satisfactorily covered, both from the point of view of licensing and control and liability and insurance. However, with the expansion of nuclear energy programmes, and the growing scale of waste management operations, a suitable administrative, legal and financial framework ought to be sought which would cover a longer term consideration notably concerning disposal. The third party liability regime established by the Paris Convention and corresponding national legislation, would seem to be ill-adapted to cover damage resulting from waste ultimately disposed of because it would necessitate the operator's liability and corresponding insurance being maintained for an indefinite period of time. Solutions should therefore be sought providing for compensation by governments.

With respect to organisational aspects, the Report suggests that programmes for the development and demonstration of disposal facilities for long-lived wastes should be entrusted to government agencies, public enterprises, or government controlled organisations.

The report moreover calls for close international co-operation and harmonisation in the practice and policies concerning the release of effluents, the quality and properties of conditioned waste and the conditions of disposal. This would also facilitate the pooling of research and development resources and the promotion of joint activities. The multilateral consultation and surveillance mechanism for sea-dumping of radioactive waste adopted by the OECD Council on 22nd July 1977 is cited as an example of the measures required at international level in this respect. National legislations, relying on results obtained at international level, would have to define and ensure a clear distinction of responsibilities. In the short-term, the management of radioactive waste would remain the operator's responsibility under conditions to be defined in his operating licence. In the long-term, i.e. after delivery of the waste at a centralised facility for storage or disposal, the government would be directly responsible and government-owned or -controlled organisations could be set up for this purpose, at any rate in the case of terrestrial disposal.

Specific proposals are made with respect to financial arrangements, in particular for the disposal of radioactive waste. The responsible administrative authorities will require adequate financial means in advance, in order to exercise satisfactorily their responsibility for the long-term control of radioactive waste disposal sites. It is proposed to provide these means by the setting up of funds to which contributions would be levied according to the "polluter pays" principle. These funds, either national or regional in character, would be used to finance future management operations, the compensation of possible damage and additional research and development. Suggestions on how such funds might be financed are given in Annex XI.

Lastly, the need to look into the question of how to regulate and control the eventual decommissioning of nuclear facilities is evoked and more fully described in Annex VI.

• *International Atomic Energy Agency*

PHYSICAL PROTECTION OF NUCLEAR FACILITIES AND MATERIALS

The delegates from ninety countries who took part in the 21st session of the IAEA General Conference in Vienna in September 1977 adopted a resolution inviting all Member States to support the IAEA in its efforts to facilitate the development of a convention on the physical protection of nuclear facilities and materials and transports, suitable for adoption by as many States as possible.

A meeting of governmental representatives was subsequently convened by the IAEA from 31st October to 10th November 1977 to consider the drafting of a convention on the physical protection of nuclear material. The meeting was attended by representatives of thirty-six Member States and observers from ten other States and from EURATOM, the OECD Nuclear Energy Agency and the Organisation of the Treaty for the Prohibition of Nuclear Weapons in Latin America (OPANAL). The meeting was provided with a draft convention prepared by the United States and comments on that draft received by the IAEA from Member States. From the statements by participants, it was clear that the Governments represented at the meeting regard the subject-matter as very important and in need of intensive consideration. Two working groups were set up one on legal issues, which dealt with such matters as designation of punishable offences, including extraditable offences, extradition and extraterritoriality, obligations for taking into custody alleged offenders, etc ; the other working group on technical issues was charged with consideration of the technical provisions and the Annex to a draft convention. The reports of the two working groups, which were adopted by the meeting, showed progress in preliminary resolution of some of the issues involved. The crucial issue on which no preliminary agreement was reached was the scope of the convention, namely (a) whether it should cover only the physical protection of nuclear materials in international transport, or also in storage and in use, such as in national facilities, and (b) what radioactive materials should be covered by the convention.

It was decided that a second meeting should be held in April 1978 for consideration of the scope, preamble, and final clauses of the convention, as well as further consideration of the draft articles revised by the two working groups. The meeting also requested the Director-General to transmit the Rapporteur's Report and the reports of the two working groups to all interested States, inviting them to submit comments and to participate in the drafting of the convention.

NUCLEAR EXPLOSIONS FOR PEACEFUL PURPOSES

The Ad Hoc Advisory Group on Nuclear Explosions for Peaceful Purposes, which held 42 meetings from September 1975 to August 1977, submitted its report to the Board of Governors in September 1977. The Board expressed appreciation for this valuable work which constitutes an important step in the study of the subject; the Board also requested the Director-General to distribute the report to Member States for information and comment, to keep them and the Board informed of any development concerning the subject-matter, and to forward the report to the Secretary-General of the United Nations for the information of its Member States.

The report covers various aspects of nuclear explosions for peaceful purposes and is based on the results of examination by the Ad Hoc Advisory Group to the extent it has found to be currently possible. The report, in particular, sets forth some principles or matters to be considered in formulating international arrangements and provides guidance on some alternative international legal instruments required for providing nuclear explosions for peaceful purposes, in accordance with NPT and taking into account the 1975 NPT Review Conference Final Declaration as well as other relevant international instruments and documents.

INTERNATIONAL ACCEPTANCE OF IRRADIATED FOOD

The legal conditions under which irradiated food could best be secured to be safe for human consumption and which would thus facilitate international trade of such products were considered by an advisory group on international acceptance of irradiated food, convened jointly by the Food and Agriculture Organisation of the United Nations (FAO), the World Health Organisation (WHO) and the IAEA at Wageningen, Netherlands, from 28th November to 1st December 1977. The meeting was attended by experts and observers from thirteen countries and representatives of the OECD Nuclear Energy Agency. The topics discussed by the Advisory Group included the licensing of food irradiation and irradiated food, control of compliance, export and import controls, and harmonisation of legislation.

ADVISORY SERVICES IN NUCLEAR LEGISLATION

At the request of the Moroccan Government, the IAEA provided the services of a legal consultant on nuclear regulatory matters to the Minister of Energy and Mines and the National Electricity Office of Morocco in October 1977, in connection with the planning for the introduction of nuclear power under the five-year programme of economic and social development starting in 1978. According to current estimates, energy consumption in Morocco is expected to grow at an average rate of 12-13% per year and, by 1990, the oil to be imported for electricity production would cost about 1 billion dirham per year at current oil prices. Nuclear power could then provide a substitute for oil and a means of reducing dependence on imports. To this end, preparatory steps will have to be taken under the next five-year plan.

It was against this background that meetings were held at Rabat and Casablanca with representatives of various Ministries concerned and with the National Electricity Office to consider various areas in which the IAEA may provide assistance at early stages of the planning process, such as training of personnel, technical and economic feasibility studies, siting and safety assessments, bid specifications for procurement of engineering services, equipment, facilities and materials, licensing legislation and the establishment of a nuclear regulatory authority. As a result of such consultations, the Moroccan authorities have expressed the wish to receive an IAEA advisory mission on nuclear power planning studies, early in 1978, and also to be further assisted by the IAEA in the preparation of legislation for licensing and control of nuclear installations.

• *INLA*

NUCLEAR CONGRESS INTER JURA '77

The International Nuclear Law Association (INLA) held its Third Congress, Inter Jura '77 in Florence from 2nd to 5th October 1977. Like the First and Second Congress organised by INLA (see NLB N° 16) this meeting, which was co-sponsored by the OECD Nuclear Energy Agency, covered the most recent developments in nuclear law. It was attended by some 300 participants from many parts of the world.

It is recalled that INLA is a private Association whose aim is to promote a better knowledge at international level of the legal problems arising from the peaceful uses of nuclear energy, in particular, from the viewpoint of the protection of man and the environment, by an exchange of information and scientific co-operation with other associations with the same objectives. The membership of INLA is steadily increasing and now comprises about 350 members from over 25 countries.

The Congress was divided into five Sessions at which some 29 papers were presented respectively dealing with contractual aspects in nuclear activities, impact of nuclear power on the environment and public acceptance, radiological protection, third party liability and insurance, and finally, inter alia, harmonisation of licensing regulations, export of nuclear equipment in relation to the NPT and computerized information on nuclear law.

The Proceedings of the Congress, which will include all the papers presented and the discussions, will be published by INLA in 1978.

AGREEMENTS

- *Belgium*
- *France*

AMENDMENT TO THE REGULATIONS ON THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD

Annexes A and B of the European Agreement on the Carriage of Dangerous Goods by Road (ADR) of 30th September 1957 were modified by amendments which came into force on 17th February 1977 and were published in the French Official Gazette of 3rd July 1977, in accordance with Decree N° 77-698 of 23rd June 1977. These amendments refer in particular to the applicable regulations on fissile materials.

The same amendments were published in the Belgian Official Gazette of 25th October 1977.

- *Belgium-Rumania*

CO-OPERATION AGREEMENT IN THE NUCLEAR FIELD

The Government of the Kingdom of Belgium and the Government of the Socialist Republic of Rumania signed an agreement on 29th January 1974 in Bucarest on collaboration in the peaceful uses of nuclear energy. The agreement came into force on 15th June 1974 and was published in the Belgian Gazette on 13th July 1977.

The agreement covers mainly the organisation of reciprocal studies, visits, exchange of scientific and technical information, encouragement of co-operation between undertakings in both countries, and industrial property rules.

• *France*

ADDITIONAL PROTOCOL TO THE CONVENTION ON THE CONSTRUCTION AND OPERATION OF A VERY HIGH FLUX REACTOR

A further Protocol to the Convention of 19th January 1967 on the very high flux reactor at Grenoble (see NIB N°s 1, 9 and 19) was signed in Paris on 27th July 1976 by the three Parties to the Convention, France, the Federal Republic of Germany and the United Kingdom. This Protocol concerns the arrangements for adopting the budget of the Max von Laue-Paul Langevin Institute which manages the Project.

The 1976 Protocol was published in France in the Official Gazette of 6th August 1977 by Decree N° 77-888 of 1st August 1977.

• *Portugal*

RATIFICATION OF THE PARIS CONVENTION

On 29th September 1977, the Government of Portugal deposited the instruments of ratification of the Paris Convention on Third Party Liability in the Field of Nuclear Energy and its Additional Protocol with the Secretary-General of OECD. Prior to the ratification, Decree N° 33 of 11th March 1977 was issued in the Official Gazette of the same date, approving and publishing the Paris Convention and its additional Protocol.

The Paris Convention now has thirteen Contracting Parties, the status of ratifications and accessions is the following:

Country	Convention	Additional Protocol
Turkey	10th October 1961	5th April 1968
Spain	31st October 1961	30th April 1965
United Kingdom	23rd February 1966	23rd February 1966
France	9th March 1966	9th March 1966
Belgium	3rd August 1966	3rd August 1966
Sweden	1st April 1968	1st April 1968
Greece	12th May 1970	12th May 1970
Finland (accession)	16th June 1972	16th June 1972
Norway	2nd July 1973	2nd July 1973
Denmark	4th September 1974	4th September 1974
Italy	17th September 1975	17th September 1975
Federal Republic of Germany	30th September 1975	30th September 1975
Portugal	29th September 1977	29th September 1977

• *Portugal - Spain*

CO-OPERATION ON THE SITING OF NUCLEAR POWER PLANTS IN BORDER AREAS

A meeting was held in Madrid on 8th and 9th March 1977 in the framework of the Co-operation Agreement between Portugal and Spain on the Peaceful Uses of Atomic Energy of 14th January 1971 (see NIB N° 8).

At the close of the meeting, both Delegations agreed to improve contacts between the two national Juntas de Energia Nuclear to strengthen and accelerate exchanges of information. Accordingly, working parties were set up to mutually exchange information covering in particular radionuclide concentration in the environment and applicable population doses, permissible temperatures in waterways and the impact of effluents on the environment, radiological control of the environment, emergency plans, etc

Both parties also came to the conclusion that an exchange of information on the possibility of siting nuclear power plants in border areas was of the utmost importance for both countries and undertook to take account of their respective comments and suggestions concerning the problems raised by nuclear safety and protection.

• *Nuclear Energy Agency*

AMENDMENT TO THE OECD HALDEN REACTOR PROJECT AGREEMENT

The Agreement covering the period from 1st January 1976 to 31st December 1978 (see Nuclear Law Bulletin N° 16) was amended with effect as from 1st January 1977, by a Protocol of 14th June 1977, following accession by the Austrian Studiengesellschaft für Atomenergie Ges.m.b.H. The Project now has the following ten Signatories:

- The Norwegian Institutt for Atomenergi
- Aktiebolaget Atomenergi, Sweden
- The Austrian Studiengesellschaft für Atomenergie Ges.m.b.H
- The Danish Energy Agency
- Electric Power Research Institute, Inc., U.S.A.
- The Finnish Ministry of Trade and Industry
- The Italian Comitato Nazionale per l'Energia Nucleare
- Japan Atomic Energy Research Institute
- Kernforschungsanlage Jülich GmbH, Germany
- Netherlands Energy Research Foundation

• *International Atomic Energy Agency*

ENTRY INTO FORCE OF THE VIENNA CONVENTION

The Vienna Convention on Civil Liability for Nuclear Damage, adopted in Vienna on 21st May 1963 by an International Conference convened by the IAEA, entered into force on 12th November 1977 in accordance with Article XXIII, three months after the deposit of the fifth instrument of ratification by the Socialist Federal Republic of Yugoslavia on 12th August 1977.

The Convention is now in force with respect to the following States: Argentina, Bolivia (accession), Cuba, Egypt, the Philippines, Trinidad and Tobago (accession), the United Republic of Cameroon (accession) and Yugoslavia.

It may be noted that five of these countries have nuclear power plants in operation, ordered or under construction: Argentina, Cuba, Egypt, the Philippines and Yugoslavia.

The Convention has also been signed by the following States: Columbia (21st May 1963), Spain (6th December 1963) and United Kingdom (11th November 1964).

The Optional Protocol concerning the Compulsory Settlement of Disputes, which had also been adopted in Vienna on 21st May 1963, was ratified by the Philippines on 15th November 1965. It will enter into force on the thirtieth day following the date of deposit of the second instrument of ratification or accession, in accordance with Article VII.

Following the entry into force of the Vienna Convention, the Standing Committee on Civil Liability for Nuclear Damage, which was established by the IAEA Board of Governors in September 1963, will be convened in Vienna from 24th to 26th January 1978. The Committee, whose primary task is to keep under review problems relating to the Vienna Convention and to advise the Director-General of the IAEA on any such problems, is since 1963 composed of representatives of the following fifteen States: Argentina, Brazil, Canada, the Czechoslovak Socialist Republic, Egypt, the Federal Republic of Germany, Finland, France, India, Japan, the Philippines, Poland, the USSR, the UK and the USA. Though the size of the Standing Committee was fixed by a Resolution of the International Conference which had adopted the Vienna Convention, the composition of the Committee may have to be revised in order to take into account the ratifications received, in accordance with the said Resolution of 19th May 1963.

SAFEGUARDS AGREEMENTS

At its meetings in June and September 1977, the Board of Governors approved the following safeguards agreements between the IAEA and:

- Argentina, in relation to a contract between the Argentine National Commission of Atomic Energy and the "Reaktor Brennelement Union GmbH Hanau" in the Federal Republic of

Germany for co-operation in the field of fabrication of fuel elements for peaceful nuclear activities;

- Argentina, in connection with the Agreement of 30th January 1976 between Argentina and Canada for co-operation in the development and application of atomic energy for peaceful purposes;
- the Democratic Peoples Republic of Korea, for the application of safeguards to a research reactor facility supplied by the USSR and to the nuclear material supplied for that reactor;
- India, in connection with the supply of heavy water by the USSR for the Rajasthan Atomic Power Station which consists of two reactors of the CANDU type with a total capacity of 400 MW(e),
- with Sierra Leone and Singapore respectively, in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

At present, 102 States are parties to NPT and, after the entry into force on 2nd December 1977 of the NPT Safeguards Agreement concluded by Japan, nearly 90% of all nuclear facilities under Agency safeguards in non-nuclear weapon states are covered by NPT-type safeguards agreements (See below the chart on the state of ratifications of NPT). Almost all major industrial countries of the world have ratified this Treaty or have indicated that they would act as if they were parties to it. As a result, IAEA safeguards will also be applied effectively to reprocessing and enrichment plants, thus strengthening the international non-proliferation regime in sensitive areas of the nuclear fuel cycle.

CHRONOLOGY OF DEPOSITS OF RATIFICATIONS AND ACCESSIONS TO NPT

Non-nuclear weapon States ·

1.	Ireland	1.7.68	57.	Uruguay	31.8.70	
2.	Nigeria	27.9.68	58.	Guatemala	22.9.70	
3.	Denmark	3.1.69	59.	Madagascar	8.10.70	
4.	Canada	8.1.69	60.	Central African Emp.*	25.10.70	acc.
5.	Unit.Rep.Cameroon	8.1.69	61.	Morocco	30.11.70	
6.	Mexico	21.1.69	62.	Senegal	17.12.70	
7.	Finland	5.2.69	63.	Holy See	25.2.71	acc.
8.	Norway	5.2.69	64.	Chad*	10.3.71	
9.	Ecuador	7.3.69	65.	Burundi*	19.3.71	acc.
10.	Mauritius	28.4.69	66.	Tonga*	7.7.71	acc.
11.	Botswana*	28.4.69	67.	Dominican Rep.	24.7.71	
12.	Mongolia	14.5.69	68.	Soc. Rep. Vietnam**	10.9.71	
13.	Hungary	27.5.69	69.	Democratic Kampuchea	2.6.72	acc.
14.	Poland	12.6.69	70.	El Salvador	11.7.71	
15.	Austria	28.6.69	71.	Fiji*	14.7.72	acc.
16.	Iceland	18.7.69	72.	Philippines	5 10.72	
17.	CSSR	22.7.69	73.	Benin*	31.10.72	
18.	Bulgaria	5.9.69	74.	Thailand	7.12.72	acc.
19.	New Zealand	10.9.69	75.	Australia	23.1.73	
20.	Syrian Arab Rep.	24.9.69	76.	Nicaragua*	6.3.73	
21.	Iraq	29.10.69	77.	Ivory Coast	6.3.73	
22.	German Dem. Rep.	31.10.69	78.	Honduras*	16.5.73	
23.	Swaziland*	11.12.69	79.	Bahamas	10.7.73	acc.
24.	Nepal*	5.1.70	80.	Sudan	31.10.73	
25.	Sweden	9.1.70	81.	Gabon	19.2.74	acc.
26.	China, Rep. of	27.1.70	82.	Grenada*	19.8.74	acc.
27.	Iran	2.2.70	83.	Sierra Leone	26.2.75	acc.
28.	Afghanistan	4.2.70	84.	Western Samoa*	18.3.75	acc.
29.	Romania	4.2.70	85.	Korea, Rep. of	23.4.75	
30.	Paraguay	4.2.70	86.	Belgium	2.5.75	
31.	Ethiopia	5.2.70	87.	Germany, Fed.Rep. of	2.5.75	
32.	Malta*	6.2.70	88.	Italy	2.5.75	
33.	Jordan	11.2.70	89.	Luxembourg	2.5.75	
34.	Cyprus	16.2.70	90.	Netherlands	2.5.75	
35.	Lao People's D.R.*	20.2.70	91.	Gambia*	12.5.75	
36.	Togo*	26.2.70	92.	Rwanda*	20.5.75	acc.
37.	Tunisia	26.2.70	93.	Libyan Arab Jamahiriya	26.5.75	
38.	Yugoslavia	3.3.70	94.	Venezuela	26.9.75	
39.	Upper Volta*	3.3.70	95.	Singapore	10.3.76	
40.	Costa Rica	3.3.70	96.	Japan	8.6.76	
41.	Peru	3.3.70	97.	Surinam	30.6.76	succ.
42.	Malaysia	5.3.70	98.	Panama	13.1.77	
43.	Jamaica	5.3.70	99.	Switzerland	9.3.77	
44.	Mali, Republic of	5.3.70				
45.	Liberia	5.3.70				
46.	Somalia*	5.3.70				
47.	Greece	11.3.70				
48.	Maldives*	7.4.70				
49.	Ghana	5.5.70				
50.	Lesotho*	20.5.70				
51.	Bolivia	26.5.70				
52.	Haiti	2.6.70				
53.	Kenya	11.6.70				
54.	Lebanon	15.7.70				
55.	Zaire	4.8.70				
56.	San Marino*	10.8.70				

<u>Depositary Governments</u> *			
1.	UK	27.11.68	
2.	USA	5.3.70	
3.	USSR	5.3.70	

*	Non-Members of IAEA	
**	The Socialist Rep. of Vietnam is reviewing its position with regard to NPT	

• *Euratom*

CONVENTION FOR THE PROTECTION OF THE MEDITERRANEAN SEA AGAINST POLLUTION

It was indicated in Nuclear Law Bulletin N° 18 that the Convention elaborated in Barcelona for the Protection of the Mediterranean Sea against Pollution was open for signature, inter alia, by the European Economic Community. On 25th July 1977, the Council of the European Communities, on behalf of the European Economic Community, decided to approve deposit of the Act concluding that Convention and its Protocol for the Prevention of the Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft. The Convention and its Protocol were published in the Official Journal of the Communities of 19th September 1977.

• *IMCO*

CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY THE DUMPING OF WASTES AND OTHER MATTER

The second Consultative Meeting of the Contracting Parties to the London Convention was held at IMCO Headquarters from 26th to 30th September 1977.

The Agenda of the Meeting included, in particular, consideration of the IAEA report on the current revision of the "Definition and Recommendations" to be developed by that Agency in implementation of the Convention. The meeting was also informed of the adoption by the OECD Council of the Decision Establishing a Multilateral Consultation and Surveillance Mechanism for Sea Dumping of Radioactive Waste, and was favourable to it.

The London Convention had thirty-five Contracting Parties at the date of the meeting, ten of which being NEA Member countries. The status of ratifications was the following:

Afghanistan	Monaco
Byelorussian SSR	Morocco
Canada	New Zealand
Capverde	Nigeria
Chile	Norway
Cuba	Panama
Denmark	Philippines
Dominican Republic	Spain
France	Sweden
German Democratic Republic	Tunisia
Guatemala	Ukrainian SSR
Haiti	Union of Soviet Socialist Republics
Hungary	United Arab Emirates
Iceland	United Kingdom
Jordan	United States of America
Kenya	Yugoslavia
Lybian Arab Republic	Zaire
Mexico	

TEXTS

• *Nuclear Energy Agency*

DECISION OF THE OECD COUNCIL OF 22ND JULY 1977
ESTABLISHING A MULTILATERAL CONSULTATION AND
SURVEILLANCE MECHANISM FOR SEA DUMPING OF
RADIOACTIVE WASTE

The Council,

Having regard to Articles 5(a), 6 and 20 of the Convention on the Organisation for Economic Co-operation and Development (hereinafter referred to as the "Organisation") of 14th December, 1960;

Having regard to the Decision of the OEEC Council of 20th December, 1957 approved by the Council of the Organisation on 30th September, 1961 as amended [C(57)255; OECD/C(61)5; C(72)106(Final); C(75)68 (Final); C(76)172(Final)], relating to the Statute of the OECD Nuclear Energy Agency (hereinafter referred to as "NEA");

Having regard to the entry into force of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (hereinafter referred to as the "London Convention") to which a number of Member countries are already party or intend to become party;

Taking into account the responsibilities entrusted to the International Atomic Energy Agency (hereinafter referred to as "IAEA") under the London Convention with respect to radioactive waste and other radioactive matter and to the provisional Definition and Recommendations established by the IAEA thereunder and as may be revised from time to time (hereinafter referred to as "the IAEA Definition and Recommendations");

Having regard to the Agreement of 30th September, 1960 between the Organisation and the IAEA providing for close co-operation and consultation between NEA and IAEA in regard to matters of common interest with a view to harmonizing their efforts as far as is appropriate in the light of their respective responsibilities;

Considering that the London Convention encourages international and regional co-operation in the development of procedures for its effective application and the promotion, within appropriate international bodies, of measures to protect the marine environment against pollution caused by radioactive pollutants from all sources;

Considering that the Member countries are desirous of pursuing the objectives of the London Convention and of maintaining and strengthening the co-operation already established within the NEA for the purpose of protecting the marine environment and public health in relation to sea dumping of radioactive waste, through the setting up of a multilateral consultation and surveillance mechanism;

Considering that the purpose of the present Decision is consistent with the objectives of the London Convention and the IAEA Definition and Recommendations, that several Member countries object in principle to sea dumping operations, and that nothing in this Decision shall be interpreted as encouraging the sea dumping of radioactive waste;

Having regard to the Report by the Secretary-General on the Recommendation by the Steering Committee for Nuclear Energy of 29th April 1977, concerning the establishment of a multilateral consultation and surveillance mechanism for sea dumping of radioactive waste [C(77)1157,

DECIDES:

Article 1

(a) The purpose of the present Decision is to set up within NEA a multilateral consultation and surveillance mechanism for sea dumping of radioactive waste, in order to further the objectives of the London Convention.

(b) The Member countries which take part in the present Decision are hereinafter referred to as "Participating Countries".

Article 2

(a) Without prejudice to the responsibilities of IAEA under the London Convention, NEA shall, in consultation with the Environment Committee with respect to all environmental policy aspects:

- (1) establish and keep under review, in the light of the experience gained, standards, guidelines, recommended practices and procedures for the safe dumping of radioactive waste at sea, in particular:
 - guidelines for the identification of suitable dumping sites, taking account of Annex III.B to the London Convention and of the IAEA Definition and Recommendations;
 - its Guidelines for Sea Disposal Packages of Radioactive Waste, with special attention to improvements intended to facilitate their proper application;
 - operating procedures, including those relating to the preparation of material to be dumped, and criteria for the suitability of ships, with special attention to improvements intended to facilitate their proper application;

- (11) assess and keep under review studies made of the environmental, ecological and radiological protection aspects of sea dumping of radioactive waste,
- (111) assess the suitability of sites proposed by national authorities and keep under review those previously considered suitable for dumping radioactive waste; such a review should take place no later than five years after the relevant assessment or the previous review and shall include the results of appropriate monitoring.

(b) Participating Countries carrying out a radioactive waste sea dumping operation, either individually or collectively, undertake to apply, taking into account the provisions of the London Convention and the IAEA Definition and Recommendations, the standards, guidelines, recommended practices and procedures adopted within the Organisation, in force at the time of the operation.

Article 3

(a) Participating Countries shall notify NEA of the legal and administrative measures which they have taken for applying, as appropriate, the London Convention, the IAEA Definition and Recommendations and the NEA standards, guidelines, recommended practices and procedures.

(b) Participating Countries shall notify NEA as soon as they have determined to carry out, either individually or collectively, a radioactive waste sea dumping operation, and in any case no later than six months before the operation is scheduled to take place. If a new dumping site is proposed, notification thereof shall be given no later than twelve months before the operation is scheduled to take place. Notification of an operation shall include the following.

- (1) the characteristics and composition of the wastes, including estimates of the quantities, types of nuclides and activities, in accordance with Annex III.A to the London Convention;
- (11) the dumping site selected;
- (111) reasons for the selection of the site, including an environmental and ecological assessment in accordance with the IAEA Definition and Recommendations or a reference to the relevant assessment;
- (1v) the operational procedures envisaged, including measures to be taken in the event of incidents such as the release of radioactive material from the containers.

(c) In addition to the notifications made pursuant to paragraph (b) of this Article, the Participating Country or Countries intending to carry out an operation shall, no later than three months before the operation is scheduled to take place, provide NEA with:

- (1) the number and specifications of the containers to be used and a statement that the containers as a minimum conform to the current NEA guidelines;

- (11) a description of the relevant characteristics of the ship proposed to be used for the operation, together with a statement that as a minimum it meets the requirements of the IAEA Definition and Recommendations and any NEA criteria for the suitability of ships;
 - (111) the name, qualifications and other relevant particulars of the Escorting Officer to be appointed in accordance with Article 5(a) below, or a request to NEA to propose an Escorting Officer, and
 - (1v) any other relevant information such as the timetable envisaged, etc.
- (d) All information referred to in paragraphs (b) and (c) of this Article shall be supplied as soon as it is available and must be sufficient to enable the consultation provided for by Article 4 below to take place
- (e) The Participating Country or Countries carrying out an operation shall provide NEA with a certificate that the materials to be dumped have been prepared in accordance with NEA standards, guidelines, recommended practices and procedures, as soon as such preparations are completed

Article 4

(a) Upon receipt of the notification referred to in Article 3 above, the NEA Secretariat shall circulate the information so provided to all Participating Countries, together with comments and observations relating a proposed radioactive waste sea dumping operation to the provisions of the London Convention, the IAEA Definition and Recommendations and NEA standards, guidelines, recommended practices and procedures.

(b) In accordance with arrangements to be determined by the Steering Committee for Nuclear Energy, the NEA Secretariat may, on its own initiative, or shall, upon request by any Participating Country, seek the advice on the proposed operation, as appropriate:

- (1) of the competent Committee of NEA, or
- (11) as regards environmental and ecological assessments, in consultation with the Environment Directorate, of an ad hoc international group of specialists in these fields, or
- (111) of an ad hoc international group of specialists on other aspects of the operation.

This procedure shall be initiated in sufficient time to enable the advice to be formulated no later than two months before the operation is scheduled to take place.

(c) Such advice shall be sought in the event that

- (1) a new site is proposed or the proposed site is not or is no longer considered suitable by NEA;

- (111) it is planned to use a ship having characteristics not previously recognised by NEA as suitable for sea dumping and of relevance to the safety of the operation;

or in such other cases as may be determined by the Steering Committee for Nuclear Energy in the light of the experience gained.

(d) The NEA Secretariat shall inform all Participating Countries of the advice obtained in accordance with paragraphs (b) and (c) of this Article.

(e) The Participating Country or Countries intending to carry out the operation shall take account of any advice obtained in accordance with this Article and shall inform NEA of the decision taken, giving the reasons therefor, which shall be reported accordingly to the Steering Committee for Nuclear Energy.

(f) Following completion of the procedure laid down in this Article, the Participating Country or Countries intending to carry out the operation shall inform NEA of the final conditions adopted.

Article 5

(a) The competent authorities of the Participating Country or Countries carrying out a radioactive waste sea dumping operation shall appoint an Escorting Officer or Escorting Officers to supervise the operation. At the request of these authorities, NEA may provide assistance by proposing qualified candidates to perform the functions of Escorting Officers.

(b) Escorting Officers shall have the duties and responsibilities, powers and qualifications specified in the IAEA Definition and Recommendations and in relevant NEA guidelines and recommended practices and procedures.

Article 6

(a) For each radioactive waste sea dumping operation carried out by one or more Participating Countries, the Director-General of NEA shall appoint a Representative and shall inform such Participating Country or Countries of his name, qualifications, nationality and other relevant particulars. The NEA Representative shall act in accordance with the instructions of the Director General of NEA and shall report to him.

(b) The NEA Representative shall have the duty and right to verify insofar as reasonably practicable by visual inspection and by the use of the instruments required for a proper radiological control of the operation, that the latter is being carried out in accordance with the final conditions adopted in pursuance of the present Decision and, in particular, that the materials to be dumped are in conformity with the certificate provided pursuant to paragraph (e) of Article 3 above. For this purpose he shall have the right to require that all necessary information is provided by the Escorting Officer or Officers, and may make suggestions and representations as to the conduct of the operation. The verification by the NEA Representative shall begin when the materials to be dumped arrive at the dockside and shall end when the contamination clearance certificate for the ship has been issued.

(c) In case of inability of the NEA Representative to fulfill the functions described in paragraph (b) of this Article, the Director General of NEA shall be informed immediately and shall consult the competent national authority or authorities as appropriate.

(d) In the event of the NEA Representative making suggestions or representations to the Escorting Officer or Officers in respect of the conduct of the operation, the NEA Representative and the Escorting Officer or Officers shall seek to reach agreement as to the action to be taken

(e) In case of disagreement between the NEA Representative and the Escorting Officer or Officers on the action to be taken in regard to the following matters:

- the ship not appearing to be in the designated area,
- containers not appearing to be in conformity with the approved specifications,
- no adequate observation of the dumping being possible,
- occurrence of significant radiation hazard to the crew or significant contamination of the ship,

or to any other significant matter which has been determined in advance by the Steering Committee for Nuclear Energy in the light of the experience gained, the Escorting Officer or Officers shall immediately suspend the operation or particular action in question and report to the competent national authority or authorities and the NEA Representative shall report immediately to the Director General of NEA. The competent national authority or authorities and the Director General of NEA shall consult together with a view to finding a mutually acceptable solution. If no mutually acceptable solution is found and the competent national authority or authorities decide to authorise continuation of the operation or particular action in question, the circumstances shall be reported by the NEA Secretariat to the Steering Committee for Nuclear Energy, at the earliest convenient opportunity.

Article 7

(a) In conformity with the IAEA Definition and Recommendations, the NEA Secretariat shall maintain records of the nature and quantities of all wastes dumped during radioactive waste sea dumping operations carried out in accordance with the present Decision and of the location, time and method of the dumping.

(b) The NEA Secretariat shall provide reports regularly on all operations to the Steering Committee for Nuclear Energy and to the Environment Committee.

(c) With the approval of the Participating Country or Countries having carried out an operation NEA shall report to the Inter-Governmental Maritime Consultative Organisation the information recorded pursuant to paragraph (a) of this Article.

Article 8

The Organisation and its officials shall, to the extent provided for in Article 19 of the Convention on the OECD and in Supplementary Protocol No. 2 to the Convention, be immune from every form of legal process in respect of any action or claim arising out of an operation of sea dumping of radioactive waste carried out by one or more Participating Countries in accordance with the provisions of this Decision. Each such Participating Country shall ensure that any protection against third party liability in respect of nuclear damage including any insurance or other financial security which may be available under its laws or regulations shall apply to the Organisation and its officials, in respect of any claim or action arising out of such operations of sea dumping of radioactive waste, in the same way as that protection applies to nationals of that Participating Country.

Article 9

No expenditure other than the cost of providing the necessary Secretariat support and the NEA Representative shall be borne by the budget of the Organisation.

Article 10

(a) The present Decision shall apply as from 22nd July, 1977, to all Member countries taking part in this Decision.

(b) Other Member countries may subsequently take part in the present Decision by notification to the Secretary-General of the Organisation to that effect and this Decision shall apply to them as from the date of receipt of such notification.

(c) Any Participating Country may terminate the application of the present Decision to itself by giving six months' notice to that effect to the Secretary-General.

• Sweden

ACT N° 140 ON THE SPECIAL PERMIT TO LOAD A NUCLEAR REACTOR WITH NUCLEAR FUEL, OF 21ST APRIL 1977*

Section 1

This Act applies to all plants intended for the production of nuclear power (nuclear reactors) for which, before the entry into force of this Act, a licence has been granted for construction and operation under Section 2 of the Atomic Energy Act (1956:306) and which was not loaded with nuclear fuel before 8th October 1976.

The term loading a nuclear reactor with nuclear fuel means that the reactor is loaded for the first time with nuclear fuel to enable a self-sustaining nuclear fission reaction to take place.

Section 2

If an application for final approval for operation of a nuclear reactor has not been submitted to the Swedish Nuclear Power Inspectorate before 8th October 1976, the reactor must not be loaded with nuclear fuel without a special permit from the Government. Such permit may be granted only if the operator of the reactor:

1. has produced a contract, which adequately provides for the reprocessing of spent fuel, and has also demonstrated how and where final disposal of the highly radioactive waste resulting from reprocessing can be effected with absolute safety, or
2. has shown how and where the spent but not reprocessed nuclear fuel can be stored with absolute safety.

Section 3

If an application for final approval for operation of a nuclear reactor has been submitted to the Swedish Nuclear Power Inspectorate before 8th October 1976, the reactor must not be loaded with nuclear fuel or, if it has already been loaded, it must not be operated after the end of 1977 or the day following the last day of September 1977, whichever the Government decides, unless the Government grants a special permit

Such permit may be granted, if, before the end of September 1977, the operator of the reactor:

1. has produced a contract which adequately provides for the reprocessing of spent fuel, or

* Unofficial translation by the Secretariat.

2 has shown that the spent but not reprocessed fuel can be managed with absolute safety.

If a permit is not granted in accordance with the above, such permit may be granted only if the operator of the reactor complies with the conditions stipulated in Section 2.

Section 4

Where a permit, as provided under Sections 2 or 3 is refused or if this Act otherwise prevents a licence granted under Section 2 of the Atomic Energy Act (1956 306) from being utilized the operator of the nuclear reactor is entitled to compensation from the State for losses resulting from measures which, before the entry into force of this Act, he has taken in accordance with the licence under the Atomic Energy Act.

If the operator neglects to take reasonable measures in order to limit such losses, compensation is reduced correspondingly.

Section 5

Any person who intentionally or by carelessness violates the provisions of Section 2, the first section, or Section 3, the first section, shall be sentenced to a fine or to a term of imprisonment for a maximum of two years.

• *Switzerland*

DRAFT FEDERAL ORDER CONCERNING THE ATOMIC ENERGY ACT*

Part 1: General Licence

Section 1 - Objects, competence, purport and scope

(1) Any person intending to construct an atomic installation within the meaning of Section 1, paragraph 2 of the Federal Act of 23rd December 1959 on the Peaceful Uses of Atomic Energy and Protection against Radiation (Atomic Energy Act) must possess a general licence from the Federal Council. The construction of installations intended to be federal establishments and institutes is governed by the rules applicable to such establishments and institutes.

(2) The granting of licences for construction and operation in accordance with Section 4, paragraph 1(a) of the Atomic Energy Act is subject to the prior issue of a general licence.

* Unofficial translation by the Secretariat.

- (3) The general licence determines:
- (a) the site;
 - (b) the general lines of the project, in particular:
 - 1. Where nuclear reactors are concerned, the reactor system, the power category, the primary cooling system as well as the approximate size and structure of the main buildings;
 - 2. where radioactive waste repositories are concerned, their storage capacity, the categories of waste, as well as the approximate structure of underground and surface constructions.
- (4) The general licence is equally binding on the cantons and communes.

Section 2 - Limitation of the period of validity

- (1) The period of validity of the general licence is limited.
- (2) If the setting up of the project is delayed without the holder of the general licence being responsible for such delay, the Federal Council may extend the validity of the licence.

Section 3 - Conditions

- (1) The general licence shall be refused or be subject to compliance with adequate conditions and duties where:
- (a) implementation of Section 5, paragraph 1 of the Atomic Energy Act so requires;
 - (b) the installation or the power to be generated therein is not likely to meet a real need in the country. When determining such need account should be taken of the replacement of oil by atomic energy.
- (2) The general licence shall only be granted to Swiss nationals domiciled in Switzerland and to body corporates governed by Swiss law, whose headquarters are located in Switzerland and which are undoubtedly under Swiss control.
- (3) The granting of a general licence may be made subject to the condition that its holder allows a judicious use to be made of the heat generated.

Section 4 - Submission and contents of the application

- (1) The application must be submitted in writing to the Federal Chancellery.
- (2) It must contain the particulars required for the granting of the general licence and be accompanied by supporting documents.

Section 5 - Publication of application, deposit of documents and objections

(1) The Federal Council publishes the application in the Federal Gazette and takes the appropriate measures to make the documents available for public inspection.

(2) Any person may, within ninety days of publication, send objections in writing to the Federal Chancellery concerning the granting of the general licence. No person shall, by making use of such option, be entitled to acquire the status of a party in the licensing procedure.

(3) Objections must include a reasoned request and be accompanied by available means of proof; those without must be specified. All objections must be signed by their author or his/her representative.

Section 6 - Consultations and expert opinions

(1) The Federal Council asks the cantons and the competent specialised services of the Confederation for their opinion and gives them sufficient time for such purpose. The cantons must consult the communes concerned and include their opinions in their replies.

(2) The Federal Council asks for expert reports. These will cover, in particular, an opinion on:

- (a) the protection of persons, other persons' property and of important rights, including the interests vested in the protection of the environment, of nature and landscapes as well as land planning;
- (b) the need within the meaning of Section 3, paragraph 1(b);
- (c) the objections submitted and the opinions obtained.

(3) As a general rule, the applicant bears the cost of the expert opinions.

Section 7 - Publication of the opinions obtained and of the expert reports; second time limit for submitting objections

(1) The Federal Council publishes the conclusions formulated in the opinions and the expert reports in the Federal Gazette. It takes the appropriate measures to make the opinions and expert reports available for public inspection and consultation, with the exception of those parts which should be kept secret within the meaning of Section 27, paragraph 1 of the Federal Act on administrative procedures.

(2) Any person may, within ninety days of publication, send objections in writing to the Federal Chancellery concerning the conclusions formulated in the opinions and the expert reports. This same right is granted to the cantons as well as to the communes concerned. No person shall, by making use of such option, be entitled to acquire the status of a party in the licensing procedure.

(3) Objections must specify the conclusions to which they relate and the reasons therefor; they must be accompanied by available means of proof; those without must be specified. All objections must be signed by their author or his/her representative.

(4) The Federal Council invites the cantons, the federal services or the experts to give their opinions on the objections to which their conclusions have given rise and gives them sufficient time for such purpose.

Section 8 - Decision of Federal Council

The Federal Council takes a decision after having considered the application as well as the opinions, the expert reports and the objections submitted.

Section 9 - Additional rules of procedure

(1) The Federal Council lays down the other rules of procedure

(2) The Federal Council may delegate to the Federal Department of Transport, Communications and Energy the duties it has been assigned under Section 5, paragraph 1, Section 6 paragraphs 1 and 2, and Section 7, paragraphs 1 and 4.

Part 2: Radioactive Waste

Section 10

(1) Any person producing radioactive waste must ensure its safe disposal and bear the cost thereof; the Confederation reserves the right to have the radioactive waste disposed of at the producer's cost

(2) The Federal Council settles the arrangements; where necessary, it may transfer the expropriation rights to third parties.

Part 3: Final Provisions

Section 11 - Transitory provisions

(1) A general licence is no longer required for atomic installations in operation or whose construction has been licensed in accordance with the Atomic Energy Act.

(2) In the case of atomic installations whose operators have obtained a siting licence but not yet a construction licence, the Federal Council simply considers, during the course of the procedure for granting a general licence, if the power generated by the installation is likely to meet a real need in the country; when determining such need account should be taken of the replacement of oil by atomic energy. Revocation of the siting licence is only permissible under Section 9 of the Atomic Energy Act; such revocation may only be decided by the Federal Department of Transport, Communications and Energy. Measures within the meaning of Section 8 of the Atomic Energy Act are reserved.

Section 12 - Referendum, entry into force and period of validity

- (1) This Order, whose scope is general, shall be submitted to an optional referendum.
- (2) The Federal Council shall fix the date of its entry into force.
- (3) This Order shall remain valid until the entry into force of a new Atomic Energy Act but no later than 31st December 1983.

STUDIES AND ARTICLES

STUDIES

COMPENSATION FOR NUCLEAR DAMAGE

IN THE OECD MEMBER COUNTRIES⁽¹⁾

1. The present study aims to describe briefly the main features of the system, emphasising the practical arrangements for compensating nuclear damage, with illustrations drawn from various national legal provisions applicable to such cases. The study will however be limited to indicating and comparing legislative provisions which are specifically nuclear, without going into the substantive and procedural rules of the general law, reference to which frequently occurs in enactments relating to nuclear third party liability: indeed, any such detailed analysis would go beyond the limits of this note. The references to national nuclear legislation are intended to illustrate the manner in which effect has been given to international Conventions and accordingly do not seek to be exhaustive.(2) It should also be noted that where the legislation of a given country does not contain a specific provision which occurs in other legislations, this may merely signify that in the country concerned such a provision is part of the general law.

(1) This Study stems from a Note prepared for the Ad Hoc Group on Transfrontier Pollution of the Environment Committee and is a contribution to its work on the conditions for compensation of victims of transfrontier pollution. It has been drafted on the basis of the information available to the Secretariat and does not commit either the Secretariat or the national authorities concerned.

(2) For a systematic description of national regimes for compensation of nuclear damage, see the Study "Nuclear Third Party Liability" published by NEA in 1977.

I. INTRODUCTION

2. Compensation for damage caused by a nuclear incident is a subject of which we have as yet, very fortunately, only comparatively little practical experience. Despite the growing number of nuclear installations of all kinds, and the expansion in transport of nuclear substances, there has so far been no serious nuclear incident directly affecting members of the public. Nevertheless, in most of the industrialised countries the legislature has been concerned to introduce without delay a scheme for compensating victims of nuclear damage, the law being in advance of events in this instance. The scheme adopted is moreover based on principles which distinguish it from the general law of liability.

3. Among the considerable social upheavals which resulted from the Industrial Revolution in the 19th century was the fact that the traditional bases of the law of civil liability were called in question. A century later the appearance of a revolutionary source of energy accompanied, however, by dangers of a kind and on a scale unprecedented, and branded in public opinion with a kind of "original sin", required in turn a new system of liability.

4. There is general agreement that the most remarkable feature of the system of "third party" liability applying to nuclear incidents is that it has established the notion of liability that is both strict (or "no fault") and limited. This was not created out of nothing, but was on the contrary the culmination of a long period of evolution in the concept of civil liability. The notion of liability for "fault" inherited from the "Lex Aquilia" of ancient Rome, under which anyone causing damage to the person or property of another through fault or negligence must pay compensation, was based on the existence of a direct link between the victim and the party causing the loss and on the idea that the latter was a free agent; at the same time it served to dissuade and even punish the offender.

5. With the spread of transport and industrial activity, cases of liability of principals resulting from acts of their agents (respondeat superior) are becoming more common, and the factor of personal liability is becoming less important in consequence, since the person actually causing the damage and the person liable are no longer one and the same.

6. Accompanying this transfer of liability is a considerable increase in the ability of human activities to cause damage, often going beyond the amount represented by the assets of the person liable; this development has resulted in the practice of insuring against liability and, in some areas like that of motor transport, of making such insurance compulsory. This development of liability insurance already represents an evolution towards some degree of socialisation of risk.

7. At the same time the development of mechanisation, by increasing the number of accidents for which no individual was responsible, raised the problem of the liability of a person in charge of an inanimate object. With the passage of time, it has appeared increasingly unfair that those suffering damage which cannot be attributed to the fault or negligence of another party should for that reason have no right to compensation.

8. These shortcomings of the traditional doctrine of "fault" liability underlie an important change in the trend of case-law based on Article 1384(1) of the Code Napoléon, leading in France to the notion of "presumption of liability" (cf. the classic decision in the Jand'heur case in 1930) and then, in a second stage, the theory of liability for a "man-made risk" ("res ipsa loquitur").⁽³⁾ In the United Kingdom where, without drawing directly on Roman law, the principle of "fault" liability was eventually recognised, the leading case of Rylands v Fletcher established a similar principle, in the second half of the last century, of strict or "no fault" liability. In Germany, as in Austria and Switzerland but not in France or the United Kingdom, it was not case-law which produced this trend but the legislature which, in special enactments, applied the theory of "risk liability" ("Gefährdungshaftung") to a number of activities regarded as dangerous, in regard to which the need to fix someone with liability thus takes second place to the requirement to pay compensation.

9. From the way in which legal doctrine and case-law have evolved in the various countries, it will be seen that the system of strict liability is intended not to replace everywhere the rule of "fault" liability, but rather to deal with a number of exceptional situations in which it proves necessary to go beyond the stage of "presumption of fault" to that of acceptance of liability and waiver of the customary grounds of defence by the operator of the activity concerned. It would be unacceptable in practice, as the opponents of the system stress, if its adoption in everyday life had the effect of encouraging irresponsible behaviour by people who could be sure of (comparative) impunity because liability for their harmful acts was automatically covered in advance by another person. The solution of strict liability would appear to be justified when:

- there is either a high probability of an incident, or a risk of very serious damage even if the probability is low;
- the damage is likely to affect the population directly;
- the activity concerned is nonetheless sufficiently important to the nation as a whole to justify its being undertaken.

(3) The case-law of the other European States whose laws are drawn from the Code Civil has followed a comparable trend over the same period.

10. The customary corollary of systems of strict liability is the limitation of that liability. Here, again, the origin of the concept of limited liability may be sought in Roman law; it is to be found in the Latin term "noxae deditio", a principle under which the owner of a good may make it over to an injured party by way of compensation, and from which has arisen the notion of liability limited to an amount equal to the value of the object causing the damage; maritime law has made wide use of this principle to limit the liability of shipowners. In the nuclear field, however, the reason for limiting liability is the quite different one of not imposing too crushing a burden on nuclear operators. When the Conventions on nuclear third party (or civil) liability were being drawn up it became clear that the effect of imposing unlimited liability on the operator of a nuclear installation would be to discourage him in advance, and that on the contrary a way had to be found of mitigating the effects of the system of strict liability by reducing the financial consequences of such liability.

11. To limit the liability of a nuclear operator in advance unfortunately involves the danger that claims for compensation following a nuclear incident will exceed the amount of that liability, the more so since statistical and actuarial data were and still are (for which we must be grateful) quite rare in this field. It is the desire to mitigate the social repercussions of such a situation which underlies the many forms of official intervention in this matter, and in particular the notion of subsidiary State liability.

12. The risk theory, limited liability, compulsory insurance, and State intervention are the principles on which nuclear third party liability is based and, as we have seen, they are not entirely new. The originality of the system of nuclear liability lies rather in the fact that for the first time these various notions have been systematically applied to a whole industry, and have been broadly accepted internationally. The existence of several international conventions on nuclear liability is a witness to the willingness of many countries, those of the OECD in particular, to harmonise their legislation in this field from the outset. This wish may be partly explained by the apocalyptic image which the Hiroshima and Nagasaki explosions gave to the peaceful uses of nuclear energy; it is also due to the need to agree in advance on uniform rules of liability and compensation in the event of a catastrophe or an incident occurring during international transport of nuclear substances causing damage outside the national frontiers; the recent increase in the number of nuclear power plants in frontier areas has provided latter-day confirmation of this need for an international legal system.

II. INTERNATIONAL BASIS OF THE RULES OF NUCLEAR THIRD PARTY LIABILITY

13. One of the main characteristics of these rules is certainly the importance, from the standpoint of achieving uniformity in the law, of the various relevant international conventions and, at the same time, the leading role of the international organisations responsible for drawing up and applying those conventions. Almost all the national laws in force in this field are directly based on those conventions, or at least follow them closely. Thus most of the laws referred to in the present study are those of the countries (4) which have signed the

(4) With the exception of Canada, the United States and Japan.

Paris Convention on Third Party Liability in the Field of Nuclear Energy(5) which is regarded as the basic text in this matter. These examples do not, however, attempt to be exhaustive, and it should be noted that some of the Signatories to the Paris Convention do not have such legislation(6).

14. The principles of nuclear third party liability established by the Paris Convention have frequently been described from the standpoint of the operator's liability, and it is no doubt unnecessary to revert to this question in detail. It need only be mentioned that the characteristic feature of the system is the strict and exclusive liability of the nuclear operator; this means that a nuclear operator whose installation (or a transport operation) is responsible for a nuclear incident is automatically held liable to the exclusion of any other person, in particular a supplier or other Contracting Party. On the other hand the liability is limited as to amount and time. The desire to ensure effective protection for those suffering damage also resulted in the requirement laid on a nuclear operator to constitute and maintain financial security corresponding to his liability, and there is thus channelling of the operator's insurance corresponding to the channelling of his liability.

15. There was a second stage in which a number of the Signatories to the Paris Convention felt it necessary to improve the system of liability and financial security applying to nuclear operators by means of a system of supplementary compensation, for which, this time, governments were to be responsible in order to deal with the consequences of a catastrophic nuclear incident. It was against this background that thirteen of the sixteen Signatories to the Paris Convention adopted, in 1963, the Brussels Supplementary Convention, under which governments undertake to meet the cost of compensation for nuclear damage in excess of the amount already covered by the financial security provided by the operator, up to a maximum of 120 million EMA units of account.(7) The Brussels Supplementary Convention provides that a first part of the compensation, from the maximum laid down for the operator's liability, up to a limit of 70 million units of account, must be covered by the government of the country in which the installation of the responsible operator is situated. The part of the compensation between 70 and 120 million units of account must in turn be paid in the form of a joint contribution from all the Contracting Parties to the Convention in accordance with a scale of apportionment based on the gross national product and the thermal power of the reactors in the territory of each of the contracting parties.(8)

(5) This Convention, signed on 29th July, 1960 by sixteen European countries, came into force on 1st April, 1968; a table of ratifications of, and accessions to, the Convention is given in the Chapter "Agreements" of this issue of the Bulletin.

(6) Greece, Turkey, Portugal and Luxembourg.

(7) A unit of account is defined by the Agreement as being 0.88867033 grammes of fine gold. When the Paris Convention and the Brussels Supplementary Convention were adopted, this unit was equivalent to 1 United States dollar.

(8) The Supplementary Convention to the Paris Convention was signed in Brussels on 31st January, 1963 and came into force on 4th December, 1974; a list of ratifications is given in the Chapter "Agreements" of NLB N° 19.

16. Some OECD Member countries that are not signatories of these nuclear conventions have legislation on nuclear third party liability which is not precisely based on the principle of exclusive but limited liability of the operator.(9) Those countries' legislation is nonetheless drafted so as to achieve the same objectives from the point of view of the interest of victims without infringing the principle of fault liability. This is what is meant by the notion of "economic channelling".

17. The principles laid down in the Paris Convention were taken up in another convention which, unlike the Paris Convention, is of worldwide application, namely the Convention on Civil Liability for Nuclear Damage adopted in Vienna in May 1963 in the framework of the International Atomic Energy Agency. None of the Contracting Parties to that Convention, which came into force on 12th November, 1977, is a Member country of OECD, and most of them are developing countries.(10) Finally, a Convention was adopted in Brussels on 25th May, 1962 for the purpose of applying rules of liability for nuclear-powered ships similar to those applying to nuclear installations on land; this is the Brussels Convention on the Liability of Operators of Nuclear Ships, which has not yet come into force.

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"Accidents due to the use of atomic energy, even for peaceful purposes, take us into a world in which space is immeasurably expanded and time excessively stretched".(11)

III. DAMAGE

(a) Nuclear incidents and nuclear damage

18. The notions of nuclear incident and nuclear damage are closely intermingled insofar as the nuclear conventions and national legislation implementing them define nuclear damage involving the liability of an operator as any damage resulting from a nuclear incident, whether it is conventional damage or on the contrary specifically nuclear (damage to the person such as dermatosis or malignant tumours, or damage to property such as radioactive contamination). A nuclear incident is defined as any occurrence or succession of occurrences arising out of the various dangerous properties of nuclear substances. Thus these definitions do not apply to conventional damage caused by a conventional accident, and damage suffered in the course of the operation of a nuclear installation or the transport of nuclear substances does not automatically entitle a victim to compensation on the basis of the special rules for nuclear third party liability; this

(9) United States, Japan.

(10) See status of ratification of, and accessions to, that Convention in the Chapter "Agreements" of this issue of the Bulletin.

(11) "Responsabilité civile et risque atomique" by René Rodière, Aspects du Droit de l'énergie atomique, CNRS, 1965.

would be so only if the incident itself, or some of the damage, was nuclear. In other cases the general law of liability still applies. Some damage that is really nuclear has also been excluded from the rules.

(b) Types of nuclear damage not covered

19. The first type of damage to be excluded is that caused to the installation itself, or to objects on the site of the installation and used in conjunction with it. It would not, it was felt, be normal for an operator's third party liability to be invoked in respect of damage to his own property or that under his own care, if only in virtue of the saying that "no one can be liable to himself"(12).

20. In countries whose legislation is based on the Paris Convention, the rules for nuclear third party liability cover physical injury suffered by the nuclear operator and his employees; on the other hand, in Japan and the United States, which are not Parties to that Convention, the general rules of law apply in this case.(13)

21. Damage to a means of transport in which nuclear substances are being transported is a special case, as its exclusion in principle, as provided for in the Paris Convention, can nevertheless be overridden by national legislation provided that the share of compensation going to "genuine" third parties is not less than a specified amount, or that other claims have already been met. In practice a considerable number of countries(14) have reincluded damage to the means of transport in the scope of the liability of a nuclear operator, and the tendency is for this measure, whose economic incidence is clearly important, to become more general.

22. There are also circumstances in which victims of nuclear damage cannot claim against the operator of the installation concerned, this would be so in the event of damage caused by an incident which is due to political disorders, whether internal (insurrection, civil war, etc.) or international (armed conflict, hostilities), or a grave natural disaster of an exceptional character. From the viewpoint of the public interest these cases of exemption from liability, laid down in the Paris Convention in a vastly different historical and political context, do give rise to some reservations or difficulties, in view especially of the increase in acts of terrorism during the last few years in most of the industrialised countries. It is for this reason that the Federal Republic of Germany has made no provision in its national(15) legislation for cases of exemption from liability of nuclear operators.

(12) Japanese nuclear legislation does not, however, expressly exclude this type of damage.

(13) United States: Atomic Energy Act, 1954, as amended, Section 11(w).
Japan: 1962 Law on compensation for nuclear damage, as amended, Section 2(2).

(14) Austria, Denmark, Finland, France, the Federal Republic of Germany, Italy, the Netherlands, Norway, Sweden and the United Kingdom.

(15) Atomic Energy Act, 1959, as amended, Section 25.

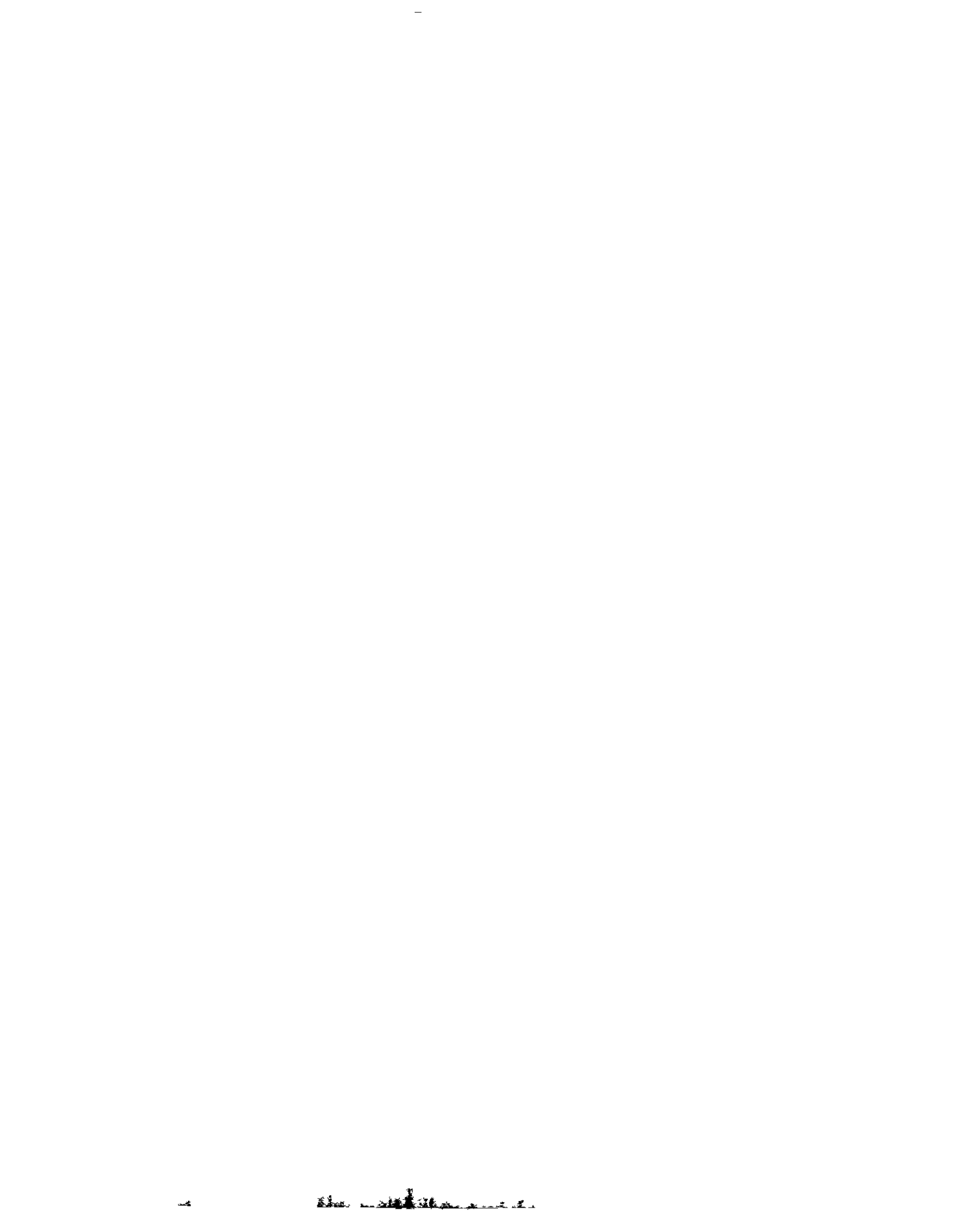
The notion of a grave natural disaster of an exceptional nature(16), may also give rise to divergent interpretations depending on the special geographical situation of the country or countries concerned.

(c) Type of nuclear damage covered

23. While nuclear legislation attaches importance to the origin of the damage in order to determine whether it will entitle victims to compensation under the special rules for nuclear third party liability, it tends not to go into detail concerning the type of damage for which compensation is to be paid, and there is so far no real case-law in this matter. It may be assumed, however, in the absence of limiting provisions, that damage to property covers the loss thereof (damnum emergens), but also temporary deprivation, loss of use, or loss of profit (lucrum cessans). This second type of damage is especially important in nuclear matters as it corresponds to the case of radioactive contamination(17).

(16) The United Kingdom legislation Nuclear Installations Act, 1965, Section 13(4) includes nuclear damage caused by a natural disaster.

(17) The laws of the Federal Republic of Germany are particularly detailed in the matter of what compensation may be paid: compensation for damage to property is limited to its customary value plus the expenditure resulting from the protective measures against dangers of radiation inherent in such property. In cases of fatal accidents, compensation covers reimbursement of pecuniary loss suffered by the victim before death, and funeral expenses. If the victim was required in virtue of a legal relationship to pay for the support of a third party, including a person conceived but not yet born at the time of the accident, such third parties may claim compensation for loss of financial support. In cases of bodily injury, compensation covers reimbursement of pecuniary loss suffered by the victim, taking account, where appropriate, of temporary or permanent inability to work, increased needs or impairment of promotion prospects. If the damage was caused deliberately or by negligence, the victim may also claim appropriate compensation for moral and physical suffering. In cases of partial or total inability to work, increased needs, impaired promotion prospects or loss of financial support, compensation is paid in the form of an annual pension. 1959 Act, Sections 28, 29, 30 and 31.



IV. CLAIMS FOR COMPENSATION

(a) Rules of Compensation

24. The Paris Convention leaves the task of determining the nature, form and scope of compensation for nuclear damage to the implementing nuclear legislation. In turn, many of the laws on nuclear third party liability preserve the application of the national rules for industrial accidents and occupational diseases to nuclear injuries suffered by workers(18). Many countries have for this purpose a restrictive list of the complaints capable of being brought on by ionizing radiation. In these circumstances, workers suffering an accident or a disease due to radiation are subject to the same compensation scheme, whether they are employed in an installation classed as "nuclear" and subject as such to the special regime of nuclear liability, or in an installation not subject to that regime (such as a gamma-ray unit in a factory or radiation equipment in a hospital). When the victim is employed in a nuclear installation the obligation of the operator, whose liability is strict, to pay compensation may be invoked indirectly by means of action brought by the organisations administering the national compensation scheme; the victim thus has no opportunity to bring an action directly against the operator unless he or she claims for damage not covered by the social insurance rules, e.g. arising out of a "fault" committed by the liable operator. Members of the public, who by definition are not covered by the rules governing industrial accidents or occupational diseases, may claim compensation directly from the operator. More generally, in many countries, the system of compensation for nuclear damage is governed on a subsidiary basis by the law on liability for tort, insofar as this does not run counter to the special rules of nuclear third party liability.

(b) Instituting claims for compensation

25. The liability of nuclear operators is strict and at the same time exclusive, which means that victims of nuclear damage have no alternative but to address their claims for compensation to the operator. This limitation on the rights of a victim recognised by the general law of liability is not only inherent in the logic of the system of strict liability, but is also justified by the fact that it simplifies and accelerates the compensation procedures, since all the actions are brought against a single person. The rule has another advantage, this time economic. It prevents actions being brought against the operator's suppliers or associates who would, in the absence of such protection, be obliged to insure themselves against nuclear risks.(19)

(18) This is the case, in particular, in the following countries: Austria, Belgium, Canada, Denmark (no recourse against the operator), France, the Netherlands, the United Kingdom (cumulative entitlement prohibited).

(19) In the United States where the law differs from the nuclear conventions on this point, and admits plurality of liability, the situation for possible victims and for suppliers is nevertheless fairly similar in practice, due to "umbrella" insurance policies and indemnification agreements with the federal authorities which include a waiver of the usual means of defence on the operator's part.

26. It remains for the victim to identify the person liable in respect of a nuclear incident. This task is made considerably easier by the fact that in all countries the operation of a nuclear installation (or transport of nuclear substances) is subject to a prior licence being issued by the authorities. The licence given to the operator (a natural or legal person) also makes him liable for any incidents that may occur in his installation or in the course of transport effected by him or on his account. While maintaining the principle of exclusive liability, the Paris Convention gives legislatures the possibility, so far as the transport of nuclear substances is concerned, of allowing the carrier to take the place of the operator who would normally be liable, on the same conditions as to liability and insurance (20).

27. In many countries the victims are allowed for reasons of convenience to address their claims directly to the operator's insurer or to the person who has provided him with the financial security required by law.

(c) Time limits

28. A special feature of nuclear damage is the fact that the physical disorder it causes may come to light some time only after the actual incident. This deferred damage makes the question of the time limit for claiming compensation a very important one, and argues for comparatively long periods. At the same time, in view of the insurance requirement laid on nuclear operators, it has been found difficult to oblige them and their insurers to maintain, over a very long period, the funds needed to cover their liability, and in general it is this argument that has won the day. As a result, on the expiry of such time-limits, victims are subject to the ordinary law.

29. A double time limit is laid down for the barring of actions for compensation: ten years from the date of a nuclear incident, or not less than two years(21) from the day on which the victim has knowledge (or ought reasonably to have known) of both the damage and the operator liable within the above-mentioned ten-year period.

30. Only in the special case of an incident caused by substances that have been lost, stolen or abandoned can the time limit be set at a maximum of twenty years from date of the loss, etc.

31. Some countries(22) have preferred, however, to keep to the traditional limitation period of thirty years, as the Paris Convention allows them to do. Others(23) have allowed a special time

(20) Most national legislation implementing the Paris Convention includes such a provision; but widespread use does not so far appear to have been made of it.

(21) In accordance with a recommendation of the Steering Committee for Nuclear Energy, almost all the Signatories to the Paris Convention have adopted a three-year time limit.

(22) Germany, Ibid, Section 32.
Austria, 1964 Act on Third Party Liability for Nuclear Damage, Section 34.

(23) Spain, 1964 Act on Nuclear Energy, Sections 56 to 67.

limit for "deferred" damage; in such cases, and given the limitations of the insurance market, it is usually the State which gives a financial guarantee of compensation for damage appearing after ten years(24).

(d) Competent courts

32. In further pursuance of the desire to simplify the settlement of any claims for compensation of nuclear damage, the authors of the Paris Convention (like those of the Vienna Convention) laid down the principle of a single forum. This also makes it easier to see that the limitation on the operator's liability, and the other rules which derogate from the general law, are observed. This solution is also clearly useful in the event of an incident having international repercussions.

33. As a general rule the competent court is the court within whose area of jurisdiction the nuclear incident took place, i.e. in principle the court nearest the victims. If the site of an incident is not in the territory of any Contracting Party, namely on the high seas, or if it is impossible to determine it exactly, the competent court will then be that of the territory of the Contracting Party in which the installation of the operator liable is situated.

34. It is for national laws to specify the rules of jurisdiction in this matter. While in most countries the legislature has chosen the court in whose area a nuclear incident occurs, other laws refer to the rules of general law (Germany) or make the administrative authorities responsible for designating the competent court for a given incident (United Kingdom). In view however of the special nature of the legal regime applicable, and perhaps also the possible international implications of a nuclear incident, some countries have chosen to designate in advance a single court to be competent for all nuclear incidents that may occur in their territory. In such cases it is usually a court in the capital of the country in question that has been selected(25). In the United States, jurisdiction is in principle governed by the legislation of the State concerned; nonetheless, in cases of "extraordinary nuclear incidents" (subject to the special Federal regime of compensation), the Federal court for the district in which

(24) United Kingdom, Nuclear Installations Act, 1965, Section 16
Denmark 1974 Act on Compensation for Nuclear Damage, Section 34.

(25) Examples

- Belgium, Brussels Court of First Instance, 1966 Act on Third Party Liability in the Field of Nuclear Energy, Section 10.
- The Netherlands, Local Court of the Hague, Bill on liability for damage caused by nuclear incidents, Section 13.
- Sweden, District Court of Stockholm, 1968 Act on Nuclear Third Party Liability, Section 37.

the incident took place is the competent court of first instance. For instance occurring outside the United States, the court is that of the District of Columbia.

35. When public funds are called upon to meet claims for compensation (see the next Chapter) jurisdiction is usually conferred on the same court.

36. If a case arose where the courts of several of the Contracting Parties to the Paris Convention could have jurisdiction over one and the same nuclear incident, it would be for the European Nuclear Energy Tribunal to designate the competent court at the request of one of the Contracting Parties concerned, so that unity of jurisdiction could be preserved.

(e) Problem of proving damage

37. Under a strict or "no fault" liability regime, proof of the actual occurrence of damage and its connection with the incident would in principle suffice to establish proof of liability. In more precise terms it may be stated that the three elements required to establish nuclear third party liability are respectively proof of radiation or contamination, occurrence of damage and existence of a chain of causality.

38. The insidious nature of ionizing radiation and the fact that its effects may be delayed for long periods is however likely to make the proof of nuclear damage more complicated. In particular, while some of the physical injuries due to radiation are fairly characteristic and hence easy to identify (e.g. radiodermatitis), other afflictions such as cancerous tumors, leukaemia etc. are not specifically nuclear in origin and, since they only usually appear after a long period of time, it is difficult to determine their cause with any certainty. Valuable information may be obtained by radiation monitoring equipment for workers in nuclear industry but the equipment used for such purposes may reveal nothing or the victim may be a member of the public and for that reason is not subject to any preventive controls. In the absence of formal proof of radiation levels exceeding the safety standards, is mere exposure to a radiation hazard as part of the victim's job to be treated as proof that an occupational disease has been caused by ionizing radiation? In their concern for victims, the courts of several countries appear to accept that a sufficient presumption exists in such cases(26). This trend of case-law has given rise to some concern in the nuclear industry due to its far-reaching implications and insofar as it challenges the

(26) See, for example, the decision of 10th February, 1966 by the Chambre Sociale of the French Cour de Cassation in the case of Dame Majoni v. the Commissariat à l'Energie Atomique (Notes in Nuclear Law Bulletin Nos. 1, 3 and 6).

credibility of standards embodied in national and international regulations on maximum permissible doses of exposure to radiation.(27)

V. COMPENSATION OF VICTIMS

(a) Global amounts of liability

39. The strict and exclusive nature of the liability of a nuclear operator is counterbalanced by its limitation. Contrary to normal practice regarding industrial accidents or accidents in the course of transport, this limitation is global rather than individual. The fact that the number of victims of a major nuclear incident cannot be foreseen no doubt made the adoption of such a solution inevitable. Apart from catastrophic nuclear incidents with vast numbers of casualties, a less serious incident could nevertheless injure a large number of people, e.g. by radioactive contamination.

40. The Paris Convention introduced a "bracket" (minimum 5 million units of account and maximum 15 million) within which each Contracting Party had to fix the maximum amount of the nuclear operator's liability under its national legislation. The idea behind the Convention was to fix a maximum amount (15 million) in principle while permitting national legislation to fix higher or lower amounts to allow for the nature of hazards, local insurance capacity or other considerations. In most cases, Contracting Parties have opted for intermediate amounts in their legislation, i.e. equivalent to about (initially) 10 million units of account(28).

41. Most countries have laid down one single liability amount, expressed in their national currency, for all nuclear installations. Legislation in several countries, however, authorises the appropriate public authorities to prescribe different liability amounts according to the size of installations or the degree of risk involved in a particular activity or transport. Some countries(29), following the Paris Convention,

(27) It is recalled in this respect that radiation protection specialists make a distinction between the "stochastic" effects of ionizing radiations regarding which the probability of an effect occurring, rather than its gravity, is considered as a function of the radiation dose without a threshold for the latter (this applies e.g. to hereditary effects or to certain somatic risks such as cancerogenesis and "non-stochastic" effects regarding which the gravity of the effect varies according to the dose intensity and concerning which a threshold can therefore be of consequence.

(28) The Vienna Convention lays down a minimum amount for the operator's nuclear liability (5 million US dollars of that period) and Contracting Parties are thus free to fix higher amounts. The number of States whose national laws are based on the Vienna Convention is still at present too small to define a tendency in the Contracting Parties.

(29) Norway, Atomic Energy Act, Section 30
Sweden, Ibid, Section 17.

have introduced a similar system of brackets. Others have chosen to lay down different amounts for each category of nuclear installation(30). Another possibility involves fixing a single liability amount but requiring differing amounts of financial security to cover the operator's liability; this approach pre-supposes that the State will undertake where necessary to cover the difference between the amount of financial security and the amount of liability.(31)

42. In view of the high rate of inflation in Western countries over the last few years, national liability amounts are undoubtedly threatened by depreciation in the relatively short term. Only rarely does legislation make provision for increases(32) or, by delegation of parliamentary powers, enable amounts to be increased by regulations. In such conditions amendments to national laws solely for the purpose of increasing liability amounts have been few(33) and far between and were in most cases designed to correct the effects of a devaluation of the national currency rather than those of inflation. It is true that the system set up by the Paris Convention allows Contracting Parties to let the nuclear operator's liability amount "stray" from the original amount so long as it does not fall below the "floor" specified in the Convention.

43. It should also be noted that with the present system of floating exchange rates, variations in the value of national compensation figures are likely to be magnified by the diverging changes in national currencies. The fact that since the de facto abandonment of an official gold price, the value of the unit of account in the Paris and Brussels Conventions, which is indirectly based on gold, has been queried, adds even more to the confusion.

44. These considerations raise the question of whether liability amounts as at present laid down in national laws are capable of coping with the consequences of a serious nuclear disaster should one take place today. Between the beginning of the 1960s, when the Conventions on nuclear third party liability were adopted, and 1977, the number of nuclear installations has not only enormously increased but the thermal power of commercial reactors has increased approximately tenfold as compared to the reactors which then existed. Over the same period, the average consumer price index in the Signatory countries of the Paris Convention has increased from 100 in 1960 to about 260 in 1976. Even if account is taken of the fact that nuclear safety technology has also made great progress over this period, the virtual stagnation of liability amounts in most countries throughout the period clearly shows that in real terms there have been significant falls. In practice, as it is to be expected that courts, in considering claims for compensation, will allow for the consequences of inflation on purchasing power, it follows that where incidents require the commitment of all the available financial cover, the number of victims who can be compensated will diminish over the years or, more probably, that the compensation awarded to each victim will be progressively reduced.

(30) Austria, Ibid, Sections 15 and 29.

(31) Germany, Ibid, Sections 13 and 31.

(32) Spain, Ibid, Section 57.

(33) The Netherlands, Spain, Switzerland, the United Kingdom.

45. A table of the liability amounts of nuclear operators expressed in national currencies appears as an annex to this study.

(b) Limitation of individual amounts of compensation

46. In general the Paris Convention leaves it to national legislation to determine the nature, form and extent of compensation and in particular makes no provision for the limitation of individual amounts of compensation. With two exceptions(34) national legislation does not contain any such limitation either; however, to the extent that victims of a nuclear incident receive compensation under schemes for industrial accidents or occupational diseases, it follows that the scales and limits of compensation in such schemes are applicable to them. As already mentioned, individuals covered by such schemes may, if the legislation permits, invoke the liability of the nuclear operator on the basis of a serious or inexcusable fault. In some countries, moreover, nuclear law expressly confers on the victims the right to claim compensation (pretium doloris).(35)

47. There is one case where the court may wholly or partially refuse to award compensation to the victim. This occurs when the operator proves that the victim was responsible for or contributed to the damage he or she has suffered following an act which was unlawful or intentional(36). In such cases, nuclear legislation conforms to the law on industrial accidents whereby the "fault" of a victim does not exonerate an employer from liability or even reduce it except where such fault is intentional.

(c) Apportionment of damages

48. Liability amounts for damage due to a nuclear incident have been calculated so as to cover the foreseeable consequences of such events. The law shows no less concern, in many countries, with ensuring that compensation for personal injury is given priority over compensation for damage to property. In most cases national legislation merely lays down such priority in principle(37). Austrian law goes further by specifying different liability amounts for the various types of installations, depending on whether the case involves physical injury or damage to

(34) Austria, Ibid, Sections 15 and 29
Sweden, Ibid, Section 17,

(35) e.g. Federal Republic of Germany, Ibid, Section 29.

(36) e.g. Canada, Act of 1970 on nuclear third party liability, Section 12
Austria, Ibid, Section 7
Denmark, Ibid, Section 15
Norway, Ibid, Section 26
United Kingdom, Section 13.

(37) e.g. Spain, Ibid, Section 51
France, Ibid, Section 13
Norway, Ibid, Section 32.

property(38); it also provides as a protective measure for the payment to victims of prescribed percentages of the total amount of financial security available, on the basis of a timetable which takes account of the way in which the damage becomes apparent over time. This approach, which enables proceedings to be delayed until a complete schedule of damage requiring compensation is available, has moreover been adopted by several other countries.

49. Swiss law(39) is noteworthy in that it authorises the court having jurisdiction to reduce the amount of compensation in an equitable manner in cases where the victim was in receipt of an exceptionally large income at the time the damage occurred. Elsewhere, in Japan(40), victims of nuclear damage are in general given priority as concerns their claims for compensation as against the ordinary creditors of a nuclear operator. It may also be noted that legislation in the Federal Republic of Germany (41) makes a distinction between those who suffer damage to property by giving priority to compensation for "true third parties" as against persons representing industrial undertakings which in one way or another are associated with or profit from the nuclear installation in question, for example by the direct use of its energy by virtue of their location.

50. In the event of a major nuclear disaster, it is unfortunately impossible to exclude the possibility that, irrespective of whether or not the compensation scheme under the Brussels Supplementary Convention comes into play, the funds available for the payment of compensation may be insufficient to provide total redress for all victims. In such circumstances, it is generally provided that compensation, without prejudice to the priority measures referred to above, would be distributed among victims in proportion to the damage suffered(42). Responsibility for carrying out this procedure may lie either with the competent court(43) or may be dealt with directly by the public authorities (see "State Intervention"). The competent authorities may first take protective steps and pay out on a provisional basis a pre-determined percentage of the compensation to

(38) Ibid, Section 15: On the basis of the liability amount for large nuclear installations (500 million schillings), the apportionment is 375 million schillings for personal injuries and 125 million schillings for damage to property. These amounts may nevertheless be wholly or partially transferred to the other category where the first one does not fully use them up.

(39) Act of 1959 on the Peaceful Uses of Atomic Energy and Protection against Radiation, Section 15.

(40) Act No 147 (Ibid), Section 9.

(41) Ibid, Section 15(c).

(42) E.g.: Denmark, Ibid, Section 23
France, Ibid, Section 13
The Netherlands, Ibid, Section 15
Sweden, Ibid, Section 19.

(43) Italy, Act of 1962 on the Peaceful Uses of Nuclear Energy, as amended, Section 25.

which victims are entitled(44). Such apportionment may also be designed to hold back funds for the purpose of compensating deferred damage.

VI. STATE INTERVENTION

51. Under a legal regime deliberately at variance with the normal principles of law governing compensation and which covers activities for which Governments have considerable responsibilities (if not in some cases a monopoly) it is not surprising to find that the State concerns itself with the insurance of nuclear installations and is very active in making sure that victims receive satisfactory compensation, either by itself assuming responsibility should the need arise, or by organising and supervising the compensation procedure.

(a) Insurance for nuclear damage

52. The first way of ensuring compensation for victims of a nuclear incident is to ascertain that the financial security to be provided by the nuclear operator meets the conditions laid down by the public authorities. Although some governments follow the policy of providing coverage themselves for their own nuclear installations, as a general rule the latter are covered by liability insurance for a sum equal to that of the third party liability of their operator or in some cases a fraction of that liability as laid down by the law, where it has been fixed at a level exceeding the capacity of the local insurance market(45). Although the Paris Convention states that the security for the operator's liability is intended exclusively for the purpose of covering damage caused by a nuclear incident, for practical reasons insurance is usually taken out for each installation and for a specific period of time. In such cases the legislation of some countries, in order to provide greater protection, requires the nuclear operator to take out insurance for a sum somewhat greater than his maximum liability (in general one-fifth) and to restore this insurance without delay under supervision of the public authorities in case of incident. The authorities must moreover be notified of any cancellation of liability insurance policies.

(b) Guaranteed payment of compensation

53. Although the Paris Convention does not so provide (unlike the Vienna Convention) the law of most countries, including Canada, the United States and Japan which are not signatories, stipulates that the State must intervene up to the amount of the operator's liability in cases where the operator or his insurer are for one reason or another unable to meet their commitments. The population is thus reassured that in no case will it have to bear the consequences of the insolvency of the nuclear operator liable.

(44) Austria, Ibid, Section 16.

(45) It may be noted in passing that the present-day capacity of nuclear insurance pools of the Signatory countries of the Paris Convention as regards third party liability is on average some \$30 million due to re-insurance and co-insurance mechanisms. It is nevertheless very much higher in some countries such as the Federal Republic of Germany or the United States (DM.200 million and U.S.\$140 million respectively).

54. The fact that the State has assumed beforehand the responsibility of granting an operating licence for the nuclear installation or a licence for the transport at the source of the incident is in itself an argument in favour of its intervention in case of default by the operator liable. In most cases, the government directly commits itself to pay compensation to victims of a nuclear incident; however in some countries (46) the necessary funds must be voted by parliament in line with the procedure generally followed for natural catastrophes or disasters of an exceptional nature. Another example already mentioned of intervention by the State in a subsidiary capacity occurs where nuclear damage only becomes apparent after the expiry of limitation periods for bringing compensation proceedings. In this connection, the possibility offered by Swiss law will be noted which provides that, after the end of the ten years following a nuclear incident, victims may submit claims to a Fund for Deferred Nuclear Damage. This fund is a public law body comparable to an old age insurance fund.

55. As pointed out in the introduction, in countries which are Parties to the Brussels Supplementary Convention, the State does not limit its action to this secondary role but itself takes responsibility for payment of compensation for nuclear damage for amounts exceeding the maximum liability of the operator up to the amount fixed in the Convention. If compensation to be paid exceeds the amount of compensation which falls to be paid by the State of the nuclear operator liable (cf. Chapter II) it will then be up to such State to request the contribution of other Contracting Parties in accordance with the Convention. It follows that in such a case, claims for compensation would continue to be directed to the same State and victims would not have to resort to the excessively complex procedures involved in direct approaches to the other Contracting Parties.

56. In countries not covered by the nuclear conventions, the Government (or a body representing it) can provide a similar guarantee by concluding an indemnification agreement with each nuclear operator whereby the Government assumes responsibility for providing compensation for victims over and above the amount of financial security prescribed up to a specified figure(47).

(c) Organisation of compensation

57. The growing awareness of public opinion to the nuclear hazard and the magnitude of the funds involved have in many countries led the State to give itself the means of exercising detailed control over the procedure for settling claims arising from nuclear damage. Such control may simply take the form of an obligation on the part of the operator concerned and his insurer to notify the appropriate public authority of

(46) This is so in Japan, Law of 1962 on compensation for nuclear damage, Section 16, and in the United Kingdom, Ibid, Section 16.

(47) In the United States, for example, the Nuclear Regulatory Commission is empowered to enter into indemnification agreements whereby it undertakes to provide compensation for nuclear damage for which the operator is held liable up to a maximum of \$500 million - 1954 Atomic Energy Act, as amended, Section 170. Japanese law contains similar provisions - Law of 1962 on indemnity agreements for compensation of nuclear damage.

claims for compensation which are submitted to them(48). In other countries, the State takes a more active part either according to a fairly systematic procedure as in Canada(49), or especially in cases where there is reason to believe that the funds available will be insufficient(50). Thus in Norway the Government may issue special regulations for the purpose of deciding the apportionment of funds(51). It must however be noted that in many Member countries, it is up to the competent court to decide on claims and take any necessary steps in this connection. This is the case notably in the United States(52).

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- (48) Italy, Ibid, Section 25
Netherlands, Ibid, Section 10
United Kingdom, Ibid, Section 20
- (49) In case of a serious nuclear incident in Canada, the Executive may initiate a special procedure, the first effect of which is to suspend the settlement of compensation claims and substitute the State for the nuclear operator for this purpose. A Nuclear Damage Claims Commission is then set up; this Commission is given exclusive jurisdiction to hear and decide any claim for compensation submitted to it which arises from the nuclear incident in relation to which it has been set up. Compensation is awarded by orders issued by the Commission and directed to the appropriate Minister (Minister for Energy, Mines and Resources), who pays them out of a special fund.
- (50) E.g. Denmark, Ibid, Section 23
Spain, Ibid, Section 51
Finland, Nuclear Liability Act, 1972, Section 20.
- (51) Ibid, Section 41.
This is also the case in France, Ibid, Section 13.
- (52) Whenever the competent court concludes, on the application of an insurer, nuclear operator or of the NRC or ERDA (where these bodies have concluded indemnification agreements) that third party liability resulting from a single nuclear incident may exceed the liability ceiling, the following provisions are applicable:
- total payments shall not exceed 15 per cent of the maximum amount without prior approval of the competent court;
 - the court shall not authorise payments in excess of such 15 per cent unless these payments are in accordance with a distribution plan approved by the court or do not prejudice the adoption and implementation of such a plan;
 - the NRC or the ERDA shall, and other interested persons may, submit a distribution plan to the competent court. The plan shall include an allocation of appropriate amounts for personal injury claims, property damage claims and possible latent injury claims which may not be discovered until a later time. It shall further contain an establishment of priorities between claimants and classes of claims as necessary to ensure the most equitable allocation of available funds. The court has the power to approve, disapprove or modify plans proposed or to adopt another plan, and to make all orders to implement and enforce the apportionment of claims.
 - within ninety days after the court has finally determined the total claims, the NRC or ERDA shall report to the Congress of the United States on the estimated requirements for full compensation and relief of all claimants.

58. In some countries, it is provided that settlement of claims arising from major nuclear disasters may be preceded by a public enquiry designed to establish the number of victims and inviting them to make themselves known as soon as possible so as to facilitate and speed up the settlement of their claims(53). As this procedure is in effect likely to take some time, it is provided in some countries that loans or advances may be made to victims in need(54). Such advances are subsequently deducted from the amount of compensation actually paid.

59. In spite of the measures taken to guarantee payment of compensation for nuclear damage, it may nevertheless happen that some claims cannot be met, either exceptionally because no operator can be held liable for the damage, or because victims for valid reasons only became aware of it after the end of the period within which claims had to be made, or alternatively due to the exhaustion of funds available under the relevant legislation. In such a case, national solidarity is nevertheless likely to play a part and legislation in several countries expressly provides that the State shall take various steps, or shall approach parliament, with a view to providing compensation for such damage(55). Such action is nevertheless frequently only available in relation to physical injuries.

VII. INTERNATIONAL ASPECTS

(a) Territorial scope

60. The Paris Convention lays down the principle that it does not apply either to nuclear incidents or to damage caused on the territory of non-Contracting States, except where otherwise provided by the national law of the Contracting State where the installation concerned is situated. Moreover, the Steering Committee for Nuclear Energy has successively recommended to Member countries that the Convention should be applied to nuclear incidents on the high seas and to damage occurring on the high seas, and that its scope of application should be extended to damage occurring in a Contracting State or on a ship registered in such State, even where the nuclear incident causing the damage occurred in a non-

(53) France, Ibid, Section 13
Switzerland, Ibid, Section 15.

(54) Canada, Ibid, Section 31
Netherlands, Ibid, Section 31.

(55) This is the case in particular in the following countries:
United Kingdom, Ibid, Section 18
Sweden, Ibid, Section 32
Switzerland, Ibid, Section 18
Denmark, Ibid, Section 34
Spain, Ibid, Sections 51 and 68
Finland, Ibid, Section 33
Federal Republic of Germany, Ibid, Section 35(1).

Contracting State(56).

61. In practice, national legislation is far from being uniform in this field. Although in some cases no special rule exists, in others damage occurring on the territory of States which are Parties to the Convention and caused by a nuclear incident occurring in a non-Contracting State is covered. A non-Contracting State may even be entitled to take advantage of the national system of nuclear third party liability, subject to the condition of reciprocity(57). Legislation of the Federal Republic of Germany(58) deserves a special mention in this respect since the operator of a nuclear installation in that country is held liable irrespective of the place where the incident occurred or where the damage was suffered. However, compensation in excess of 15 million units of account of the European Monetary Agreement is only paid on condition of reciprocity where the damage occurred in other States.

62. In fact, no country apart from the Federal Republic of Germany awards compensation for nuclear damage occurring in States which are not Parties to the Paris Convention, except in some cases subject to a condition of reciprocity. This rule also complicates insurance cover for the transport of nuclear materials across non-Contracting countries. Since the Paris Convention reserves the operator's financial security exclusively for compensation of damage covered by the Convention, insurers must provide duplicate cover in such cases. As regards the Brussels Supplementary Convention, the very nature of that instrument as an expression of international solidarity means that only Contracting Parties can benefit from it and any alteration to its scope of application by national law would require the prior unanimous consent of the Contracting Parties.

63. As regards countries which are not Parties to the nuclear Conventions, bilateral arrangements may be entered into. This is notably the case for Canada and the United States which have settled the problems arising from their vicinity on this basis(59).

(56) The Paris Convention, aside from such extensions, has itself introduced an exception to the limitation of its scope of application: where, in the case of a nuclear incident occurring in a non-Contracting State or damage suffered in such State, a person (other than the operator concerned), being a national of a Contracting Party, has been obliged to pay compensation to victims, such person has a right of recourse against the nuclear operator even though the latter would not in the normal course of events be liable for the incident or the damage in question.

(57) This is the case in particular under legislation in the Scandinavian countries.

(58) Ibid, Sections 25 and 31.

(59) Canada - USA nuclear liability rules - October 1976.

(b) International carriage

64. The need for a uniform liability regime was felt to be particularly acute at the time of drafting the Paris Convention in relation to the carriage of nuclear substances, due to its international implications. The international carriage of nuclear materials has grown at a rapid rate over recent years.

65. The first exception to the normal rules which is made in this area entails the nuclear operator rather than the carrier being held liable, unless otherwise provided, for damage caused by the nuclear substances being transported. As a general rule the operator despatching the substances is deemed to be liable up until the time when the substances are taken in charge by the operator of another installation. The consignor operator and the consignee operator may however provide otherwise by written contract. In case of incident, the identity of the operator liable may be immediately determined by reference to a transport certificate handed over to the carrier. This certificate(60) specifies the name of the operator liable and the substances transported, the route to be taken and the amount and type of security.

66. Transportation from or to a non-Contracting State poses a special problem since it is not certain that an operator who is a national of that State will be covered by appropriate security. The Paris Convention, with a view to the protection of victims, therefore provides that the operator who despatches nuclear substances to a non-Contracting State must assume liability for them until they are unloaded from the means of transport which has brought them to the territory of that State. Conversely, a consignee operator subject to the Paris Convention must assume liability for substances from the time they are loaded onto the means of transport by which they are to leave the non-Contracting State

(c) Power plants close to frontiers

67. In the same way as the international carriage of nuclear substances, nuclear power plants which are being set up in increasing numbers in frontier regions are likely to affect the population of one or more neighbouring States should an incident occur. These installations are not the subject of special arrangements as regards nuclear third party liability and provisions of national legislation concerning the scope of application of domestic law are consequently applicable as mentioned above.

(d) Enforcement of judgments

68. The preceding paragraph raises the question of how victims of a nuclear incident for which an operator who is a national of a foreign country is liable, could obtain redress for damage suffered - this is in the first place dealt with by rules on jurisdiction which it has been seen /See Chapter IV(c)/ give jurisdiction to one single court which is in principle that of the place of the incident. The Convention provides, moreover, that judgments given on this basis may be enforced in the territory of any other Contracting Party on fulfillment of the

(60) Transport certificates, issued by insurers under the control of the appropriate authorities, are in practice used mainly for international transport. They are drawn up in accordance with a model document prepared by NEA.

formalities prescribed by that Party. No further consideration of the substance of the case is permitted. If proceedings for compensation were to be brought against a Contracting Party under the Convention, that Party could not invoke its immunity from proceedings, except of course as concerns measures of execution. Procedural rules concerning the confirmation of foreign judgments are normally part of the ordinary law; however, the law of some countries(61) provides for example that the original judgment, or a certified copy, must be forwarded to the competent national authority, together with a translation, where necessary, and with a declaration by the public authority of the country where the judgment was delivered confirming that the judgment was based on the Paris Convention and is enforceable in that country.

69 The nuclear Conventions also lay down that their provisions (like those of national legislation) shall be applied without any discrimination based on nationality or permanent or temporary residence. Thus, any person who is a national of a foreign country (including a non-Contracting country) and who is the victim of nuclear damage in a country Party to the Paris Convention, will receive compensation on identical terms to those governing compensation for victims who are nationals of that country.

(e) Applicable law

70. Bearing in mind the extreme complexity of this private international law problem, the observations which follow have been deliberately simplified. As a general rule, the Paris Convention provides that for any question of substance or procedure not governed by the Convention the court having jurisdiction must apply its own national law (lex fori). For example, where an incident occurs in an installation situated in Contracting Party A and damage is suffered in the territory of another Contracting Party B (i.e. nuclear power plant in a frontier region) the court having jurisdiction (normally that of the place of the incident) will apply its own national law to claims for compensation from victims who are nationals of the other Contracting Party. The position is nevertheless more complicated where, in the course of international carriage, nuclear materials which are being transported under the responsibility of an operator of Contracting Party A cause a nuclear incident in the territory of another Contracting Party B. In such a case, the court with jurisdiction will be that of Party B and will apply its national nuclear law to claims for compensation and its apportionment and regarding time limits for submitting claims. On the other hand, the Paris Convention, which makes possible, by the use of contractual arrangements, [see Chapter VI(b)] the determination of the operator liable, also provides that the liability ceiling of the operator is that specified by the national law of the operator liable. This rule is designed to avoid a situation where an operator could, in the course of carriage, be held liable for different amounts according to the country being crossed.

71. If, in the two cases set out above, country B was on the contrary not a Party to the Paris Convention, the position of victims in such country would be very different. They could no doubt bring proceedings before a court in their own country (within whose jurisdiction the damage had occurred) and that court could award compensation under its national law, but in such a case country A would probably (contrary to the previous cases) refuse to enforce such judgment as being contrary to

(61) Finland, Ibid, Section 38.

its own public order (the judgment in country B is based on the unlimited liability of the operator or because a judgment had already been delivered in country A). The situation is somewhat more favourable from the insurance angle; insurance policies stipulate that the funds are to be paid according to the law applicable in the location where victims have suffered the damage. There would probably be no problem if all the damage were suffered (and compensated) on the territory of a non-Contracting country (international transport case); on the other hand, there might be difficulties if the incident has occurred in a Contracting country and the insurance funds have already been totally earmarked for compensation of damage caused in that country. Were victims in country B to take proceedings against the operator liable before a court in country A, they would be likely to run up against the provisions of the law of country A restricting the scope of application of the operator's liability [see Chapter VII(a)] unless provision had been made under that law for its extension(62). One last possibility, mentioned for the record, would be for victims in country B, after exhausting their domestic remedies, to ask their government to approach country A on the basis of its responsibility as the State having licensed the operator liable.

(f) Differences between the various compensation regimes from the standpoint of victims

72. It is quite clear that victims of a nuclear incident will be subject to different compensation regimes depending on whether they are in a country not party to any Convention, in a country party to the Paris Convention alone or in a country party to both the Paris Convention and the Brussels Supplementary Convention. This is also true in the case of a nuclear incident with effects in countries other than that of the operator's nationality, except where the victims are able to benefit from the national law of countries which provide for an extension of the scope of application of their nuclear third party liability system.

73. Thus nationals of countries such as Austria and Switzerland (not party to any convention) could not obtain compensation under the Paris Convention for damage due to an incident in a nuclear installation in Italy. Similarly, nationals of Belgium (party to the Paris Convention alone) would not obtain the benefit of the international contribution introduced by the Brussels Supplementary Convention, in relation to damage caused by an incident in an installation in France (or in the course of carriage on behalf of and under the responsibility of a French nuclear operator).

74. On the other hand, it must be repeated once more that, in accordance with the principles laid down by the Paris Convention, national law of the Contracting Parties must be applied without any discrimination of nationality or residence. It follows that a national of a non-Contracting country who suffered from nuclear damage within the territory of a State Party to the Paris Convention, would be entitled to the same compensation and the same treatment as nationals of that State. The same

(62) In this respect, it should be specified that the Paris Convention lays down that the nuclear operator cannot be held liable outside the Convention for damage caused by a nuclear incident, and also, that no person other than the operator is obliged to pay compensation for such damage (except under an international agreement in the field of transport prior to the Convention). The question here is to know whether these provisions could be invoked against victims in a non-Contracting country to stop them from taking proceedings against the operator concerned on the basis of ordinary law or liability, without involving the international liability of the Contracting State in question on that occasion.

absence of discrimination is to be found in the application of the Brussels Supplementary Convention with one minor exception concerning damage suffered by nationals of a non-Contracting country aboard a ship on the high seas or an aircraft flying over them. This exception may moreover be excluded by Contracting Parties by a declaration treating such persons in the same way as their own nationals where they habitually reside in their territories.

75. As has already been stressed, the rules of nuclear third party liability have been designed to cover the exceptional hazards attached to certain types of nuclear installations and not to cover all activities in this field without distinction. Another possible source of differences between national systems therefore consists in the definition of those installations and transport of nuclear materials which are subject to this special liability regime. Having regard to the undisputed complexity of the definitions appearing in this connection in the Paris Convention, several Contracting Parties have drawn up exclusive lists of installations covered by that regime⁽⁶³⁾ or have laid down certain classification criteria. It follows that installations covered by the Paris Convention in one country are not necessarily so covered in another

VIII. FINAL OBSERVATIONS

76. The purpose of this Note has not been to praise the virtues of the compensation regime for nuclear damage but simply to try to clarify its general workings with particular reference to the way in which it transcends national frontiers and the principles of private law.

77. It would moreover be difficult to give a final verdict on a compensation regime which has not as yet been put to the test on a large scale. Practical difficulties involved in its application have so far been encountered principally in the field of insuring nuclear risks - and attempts are being made to overcome these difficulties at international level within the NEA Group of Governmental Experts on nuclear third party liability.

78. On the other hand it may be noted that in spite of the remarkable efforts which have been made to achieve international harmonisation, the as yet insufficient number of ratifications of the nuclear Conventions results in the continuance of disturbing disparities between national compensation systems within the OECD area. In this connection, it may be regretted that the "public debate on nuclear energy" has in some countries had the effect of delaying or even blocking the procedure for ratification of the Conventions, thus detracting from the uniformity of the international system of nuclear third party liability. This setback is likely to be particularly noticeable in the event of an incident with international repercussions since, at national level, most countries have not waited for ratification of the nuclear Conventions before introducing legislation based on the principles contained in them

(63) Spain, Ibid, Section 2
France, Ibid, Decree of 11th December, 1963 amended in 1973.

79. The regime can still be criticised in one respect by its very conception its scope is limited to incidents likely to occur in large nuclear installations. This means that cases not involving such installations are governed by the ordinary law of liability and, whatever may be the weight of arguments to the effect that it is not economically justifiable to maintain substantial insurance for minor nuclear hazards, it may be regretted from the standpoint of possible victims of radiation from a radioactive source outside the special nuclear third party liability regime, that the latter are not covered by strict and exclusive rules of liability, especially having regard to the problems of proving nuclear damage. This discrimination may seem somewhat unjust even though, in practice, nuclear liability insurance has been inclined to go beyond the narrow limits established by the Conventions, and case-law is emerging which tends to strengthen the presumption of liability of the user of such sources.

80. Another criticism which is sometimes made in relation to the Paris Convention is that it is far more detailed in relation to the liability and insurance regime of the nuclear operator than it is for conditions of compensation of potential victims. From a similar standpoint and based on the principle that the "polluter pays", it may be thought odd that at a time when nuclear energy has reached maturity, the nuclear industry should continue to receive substantial State assistance in the provision of financial security to cover possible nuclear incidents and should also be exempted from liability in certain cases. In this respect, a trend now seems to be emerging to limit State intervention in this area to categories of damage which cannot be insured specifically and to increase the insurance obligations of operators, either by increasing the insurance required (Germany) or in the context of a mutual fund system supported by nuclear operators (United States).

81. To conclude, the question might possibly be asked whether the very nature of the limitation of liability might not in extreme cases influence the behaviour of the nuclear operator who to some extent sees himself relieved from liability to penalties imposed by the ordinary law on any entrepreneur who fails in his duty not to commit a fault causing damage. But this would be to ignore the extremely strict controls imposed on the operator at the time of construction and during operation of the installation and which, in case of his default, may lead to the imposition of severe economic consequences. There does not therefore appear to be any reason, on condition that controls continue to be strictly enforced in the future, to fear that the regime will lead to any form of slackness on the part of nuclear operators or to a "dilution" of their liability

82. In any event, the compensation regime for nuclear damage cannot claim to be irreproachable or immutable and this Note has set out in its different chapters the points where improvements are required in the light of practical experience and economic developments. Work at present being carried out within the NEA Group of Governmental Experts concerning the modernisation of the Paris Convention and the Brussels Supplementary Convention could provide an opportunity for this to be done.

TABLE
MAXIMUM AMOUNTS OF INDEMNIFICATION
FOR LARGE NUCLEAR INSTALLATIONS
(in millions of national monetary units)
or EMA u/a

Country	Nuclear Operator			Ceiling of additional State intervention
	Maximum (basic)	Approx equivalent in millions of US dollars	Other lower amounts (minimum)	
Austria (schillings)	500 (1964)*	31	3 (particle accelerators)	
Belgium (BF)	500 (1966)	14		
Canada (C\$)	75 (1970)	68	any other amount fixed by the Government	To be decided by Parliament
Denmark (krona)	75 (1974)	12	5 EMA u/a minimum	120 EMA u/a
Finland (marks)	42 (1972)	11	21	120 EMA u/a
France (FF)	50 (1968)	10 3		600
F.R. Germany (DM)	500 (1975) (financial coverage)	221		1,000
Italy (lira)	7,500 (1975)	8 6		43,750/75,000
Japan (yen)	6,000 (1971)	24	between 1 billion and 100 million yen	To be decided by Parliament
Netherlands (guilder)	100 (1976) (fin security)	41	To be decided by Government	430 (120 EMA u/a)
Norway (krona)	70 (1972)	13	35	120 EMA u/a
Spain (pesetas)	350 (1968)	4 2	1**	Appropriate measures to be taken by the State
Sweden (krona)	50 (1968)	10.5	25	120 EMA u/a
Switzerland (SF)	200 (1977)	90	40	
United Kingdom (£)	5 (1969)	9		50
United States (\$)	140 (1975) (insurance)			560***

* Year amounts were fixed

** Installations classified as "radioactive"

*** 100 million dollars for damage caused by an incident outside the United States

BIBLIOGRAPHY

• *Federal Republic of Germany*

Fünftes Deutsches Atomrechts-Symposium, Referate und Diskussionsberichte, Herausgegeben von Rudolf Lukes, Carl Heymanns Verlag Köln, 1977, 346 pages (5th German Symposium on Nuclear Law - papers and discussions - published by Rudolf Lukes)

The Fifth German Symposium on Nuclear Law, held in Münster from 8th - 10th December 1976, continued the tradition begun in 1972 (see Nuclear Law Bulletin N°s 12, 16 and 18). Five general subjects are discussed by 23 papers.

The first session dealt with nuclear law and its development, covering the position of nuclear law in the legal system, problems of substantive and procedural law in the light of jurisdiction, and some thoughts on the further development of this rather complex body of law in the Federal Republic of Germany. The second general theme covered the wide range of procedures related to protection of the environment to be observed in the context of the nuclear licensing procedure

Technical, economic and legal problems connected with the decommissioning of nuclear installations were discussed in the third session. Representatives of licensing authorities, the nuclear industry, and the utilities presented papers, in the fourth session, on the question of licensing standardised component parts of nuclear installations as a contribution to the simplification and acceleration of the licensing procedure.

Lastly, several papers were devoted to the participation of the public in the nuclear licensing procedure. The function and implementation of this participation was discussed in particular in the context of the draft Nuclear Installations Ordinance which meanwhile entered into force (see Nuclear Law Bulletin N° 19 and its supplement). N. Pelzer and W. Bischof presented a comparative review of public participation in nuclear licensing procedures in France, the Netherlands, Sweden and Switzerland, a translation of which was published in Nuclear Law Bulletin N° 19.

Atomgesetz mit Verordnungen mit einer Einführung von Prof. Dr. jur. Hans Fischerhof, 7 Auflage, Nomos Verlagsgesellschaft, Baden-Baden (The German Atomic Energy Act and Ordinances), by Prof. Hans Fischerhof, 7th Edition, 1977, 296 pages

German nuclear law has undergone a number of important changes during the past years and the lack of a comprehensive publication containing the principal legislation in the nuclear field has been felt acutely. Now that the new legislation has been consolidated with the issue of the most important ordinances provided for under the revised Atomic Energy Act, this gap has been filled by the present publication.

It contains (in German only) the texts of the Atomic Energy Act in the version published on 31st October 1976 as well as the principal ordinances issued thereunder: the Nuclear Installations Ordinance (see the Supplement of Nuclear Law Bulletin N° 19), the Radiation Protection Ordinance, the X-Ray Ordinance, the Financial Security Ordinance (see the Supplement of Nuclear Law Bulletin N° 18), the Ordinance concerning Costs, the Food Irradiation Ordinance, the Ordinance on the Authorisation of Medicaments treated with Ionizing Radiation or Containing Radioactive Substances, and the German text of the Paris Convention.

The book is completed by an introduction by Professor Fischerhof and an annex listing the various competences of the Bund and the Länder for the licensing and control of nuclear activities under the main Act and the Ordinances.

• *United States*

Regulatory and Other Responsibilities as related to Transportation Accidents, US Nuclear Regulatory Commission, Washington 1977, 10 pages

This report published by the Nuclear Regulatory Commission (NUREG-0179) deals with regulatory and other responsibilities as related to accidents during transportation. The various responsibilities of the different bodies and interested parties are specified for accidents occurring during transport involving radioactive materials. This report makes a distinction between responsibilities related to regulating national and international transport, to preparation and conduct of transport operations (including third party liability) and finally those related to measures to be taken in case of hazard. This report also deals with the obligation to decontaminate

• *Euratom*

Authorisation Procedure for Containers and Modalities of Transport of Radioactive Substances within the EC Member States, Commission of the European Communities, Luxembourg, 1977, 51 pages

Following the studies on the authorisation procedure for construction and operation of nuclear installations, the Commission of the European Communities has just published a new study on the authorisation procedure for containers and arrangements for the transport of radioactive substances in the European Community Member States (EUR 5663e). This study, which is unfortunately only available in English, was prepared as were the previous ones by the legal and economic consultants J.M. Didier and Associates. It includes an analysis of the legislative sources and a description of the authorisation systems for the different modes of transport, according to a pattern which is standardised, where possible, in view of the relative differences in the national regulatory systems

• *NEA*

Fifth Activity Report of the OECD Nuclear Energy Agency, OECD, 1977 89 pages

This Report covers the Agency's activities during 1976. They are grouped under the following headings: Trends in nuclear power, regulatory aspects, technical development, nuclear science, organisation and administration. The "Regulatory aspects" deal with matters related to nuclear safety and licensing, radioactive waste management, radiation protection, public information and, finally, nuclear law. This latter chapter describes the recent developments in the international conventions on nuclear third party liability as well as the Secretariat's activities in the field of information on nuclear law (publications and reports). The NEA Annual Report is distributed free of charge on request.

Description of Licensing Systems and Inspection of Nuclear Installations, OECD Nuclear Energy Agency, Paris 1977, Part I - 123 pages, Part II - 86 pages

The OECD Nuclear Energy Agency (NEA) has just published a study on the Licensing and Inspection Systems for Nuclear Installations in OECD countries. This study, which updates Part II of the analytical study published by NEA in 1972 on regulations governing nuclear installations and radiation protection (Nuclear Legislation Series) was originally prepared by the Secretariat for the NEA Committee on the Safety of Nuclear Installations.

The study is divided into two separate sections, Part I and Part II. Part I contains the description of national licensing and inspection systems for nuclear installations in the twenty OECD countries which have specific regulations in this field, namely: Austria, Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Greece, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. Each analysis has been presented following a plan which is as standardised as possible so as to facilitate comparison between the national systems.

Part II contains the diagrams illustrating the steps in the licensing procedure and the duties of the bodies involved as well as certain additional documents; it also includes a table showing the sequence of the main steps in the licensing process in the countries covered by this study.

This study, which is distributed free of charge, may be obtained on request from the NEA Secretariat, 38 Boulevard Suchet, 75016 Paris.



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